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ABSTRACT

This document is a guide for teachers and trainers participating in the initial experimental offering of a 6-week minisabbatical, Designing Classrooms that Work (CTW). The minisabbatical is designed to help teachers learn how to make the kinds of curricular and pedagogical changes implied by reforms to integrate vocational and academic education and to improve the school-to-career transition. The guide constitutes the basic text for the minisabbatical as a course of study and is supplemented by readings on curricular and pedagogical innovation. It explains the background and purpose of the minisabbatical, describes its organization, and provides suggestions for implementation in these areas: overall project coordination, school and classroom arrangements, teacher recruitment and selection, worksite and mentor recruitment, and student recruitment. The main body of the guide is organized by weeks. Each week has two main elements: an introduction or overview and descriptions of activities. Topics are as follows: Week 1--Introduction; Week 2--Observe Authentic Worksite Problems; Weeks 3-4--Design Curriculum and Plan Assessment; and Weeks 5-6--Teach and Assess the CTW Curriculum. Appendixes contain the following: minisabbatical syllabus and reading list, schedules, protocols, evaluation instruments, and other materials to support implementation. (YLB)

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DESIGNING CLASSROOMS THAT WORK: TEACHER TRAINING GUIDE

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PREFACE

This document is a guide for teachers and trainers participating in the initial experimental offering of a six-week "mini-sabbatical," "Designing Classrooms that Work." The mini-sabbatical is designed to help teachers learn how to make the kinds of curricular and pedagogical changes implied by reforms to integrate vocational and academic education and to improve the school-to-career transition.

The guide constitutes the basic text for the mini-sabbatical as a course of study and is supplemented by readings on curricular and pedagogical innovation. The guide explains the background and purpose of the mini-sabbatical and provides a detailed outline of activities and requirements. A companion document, *Designing Classrooms that Work: Conception and Pilot Study*, describes the conceptual framework underlying the design of the mini-sabbatical and reports on the initial implementation and outcomes of the mini-sabbatical, which was conducted in the summer of 1996.

The mini-sabbatical is designed for high school teachers in a variety of school-to-career programs such as career academies, cooperative education, school-based enterprises, and career focus schools. This guide is intended as a source of ideas and activities for conducting staff development for teachers, whether or not the entire six-week mini-sabbatical is implemented.

Development and testing of the mini-sabbatical at RAND was funded through a grant to the National Center for Research on Vocational Education, University of California at Berkeley, from the U.S. Department of Education, Office of Adult and Vocational Education.

INTRODUCTION TO THE MINI-SABBATICAL

The mini-sabbatical provides teachers with a unique opportunity to learn about today's workplace and draw meaningful connections between the workplace and the classroom. The goal of the mini-sabbatical is to enable teachers to acquire skills and behaviors that will (1) increase their knowledge of work practice; (2) help them create a high-quality, integrated curriculum that incorporates both domain-specific (e.g., academic, technical) and generic (e.g., problem-solving, communications) skills; (3) help them design classrooms that promote authentic learning; and (4) help them develop assessments that provide meaningful feedback to the students and teacher.

In order to accomplish this, teachers participating in the mini-sabbatical will

- Learn ethnographic techniques for describing and analyzing work.
- Apply these techniques in observations of local worksites.
- Design a short curriculum of high-quality, authentic lessons drawn from worksites.
- Learn about models for teaching and assessment.
- Experiment with teaching and assessing the new curriculum in a short two-week class with high school students.
- Work closely with other innovative teachers and education researchers.

Motivation: The Need for the Mini-Sabbatical

Almost universally, America's teachers have been trained to teach curricula that are school-based and subject-specific. But federal legislation and school reformers are urging that teachers develop and teach curricula that focus on "generic" skills such as problem solving and teamwork; integrate vocational and academic education; and emphasize "real world" applications, especially applications found in the workplace. Unfortunately, most teachers are being asked to change their practice without the requisite knowledge or the means for acquiring it (Bodilly, Ramsey, Stasz, & Eden,

1992). To make use of the workplace as a context for learning, teachers need (1) knowledge of work and work practice, (2) a new model for classroom design and instruction, and (3) the opportunity to learn and apply both.

We and our colleagues have conducted research to help meet the first two of these needs. Our study of skills requirements for work provided new insight into worksites and their potential contribution for classroom design (Stasz, Ramsey, Eden, Melamid, & Kaganoff, 1996). In addition, we developed and field tested worksite assessment methods, including cognitive task analysis and observation of skills and work context. These methods assess skills required for work at a level which can inform curriculum design. Other work addressed the need for a new model of classroom design and instruction. Two of our studies suggested that practitioners from both vocational and academic disciplines can benefit from an instructional model focused on the teaching of generic skills such as problem solving, cooperation, and dispositions such as persistence and boldness (Stasz, McArthur, Lewis, & Ramsey, 1990; Stasz, Ramsey, Eden, DaVanzo, Farris, & Lewis, 1993). This model, which we refer to as the "Classrooms that Work" model, requires teachers to assess the skills, attitudes, and knowledge required of work and to design lessons and classroom environments that support learning them.

The mini-sabbatical is designed to meet the third need, providing teachers with an opportunity to acquire knowledge of the workplace and new design models and to apply that knowledge in developing and teaching innovative curricula. The mini-sabbatical will also test the utility for teachers of the worksite observation methods and of the "Classrooms that Work" model, as well as the feasibility of requiring teachers to learn to use and apply these tools and to change their practice in a relatively short time.

Organization of the Mini-Sabbatical

The six weeks of the mini-sabbatical are divided into three two-week sections; at the end of each section, participants will have acquired important skills and experience that they can use in the future to modify their curricula and teaching. The following is a schematic view of the mini-sabbatical syllabus. A more detailed version appears in Appendix A-1:

- Weeks 1 and 2: Prepare for Observations and Observe Worksites
- Weeks 3 and 4: Design Curriculum and Plan Assessment
- Weeks 5 and 6: Teach and Assess Curriculum

In the first two weeks, teachers will learn ethnographic techniques for observing work in worksites and practice using these techniques to extract elements of authentic practice for potential inclusion in curricula. The worksite observation included in this mini-sabbatical emphasizes highly structured and multi-day study of the workplace. Coaching on these observational methods will continue through the week of worksite visitations. Participants' insights and conclusions about the nature of work, relations in the workplace, and tasks will then form the basis of their curriculum design work in the remainder of the mini-sabbatical. These weeks will also include an introduction to the mini-sabbatical as a whole.

In the second two weeks, teachers will apply their observations to curriculum design using the "Classrooms that Work" model. The model integrates various dimensions of the educational setting such as instructional goals, teacher role, student role, and classroom design—and encourages a consistent perspective on managing each of these elements. This model was derived from classroom observation research with teacher and student participants (Stasz et al., 1993). Teachers will use the model together with their worksite observations to develop a short curriculum unit that reflects authentic practice. Teachers will be provided the resources—time, workspace, peer collaboration, and materials—to develop curriculum. The project facilitators will coach and guide teachers to support their active construction of new professional habits of practice.

In the third and final two-week section, teachers will gain experience in teaching and assessing the newly devised curriculum. The mini-sabbatical serves as a partial "proof of concept" of the "Classrooms that Work" model. It tests whether, other things being equal, strengthening a classroom's authentic work context, coupled with redesign of the curriculum in alignment with work-inspired goals, will produce a classroom that is more successful in imparting "generic" vocational skills and attitudes.

The mini-sabbatical follows a professional, adult training model common in industry that relies strongly on the attitudes, knowledge, skills, and experiences that adult

participants bring with them. Throughout the mini-sabbatical, trainers will repeatedly call on participants to reflect upon the ways in which their new insights into work and the classroom impact and interact with their own personal perspectives on, and prior experiences with, teaching and learning.

Implementing the Mini-Sabbatical

This section contains suggestions for implementing a "Classrooms that Work" mini-sabbatical. We write it with the knowledge that each implementing organization will make changes to fit their resource capabilities and available expertise.

Overall Project Coordination

Besides actual instruction, five major functions are important to staff. They include coordination of the following: (1) school and classroom arrangements; (2) teacher recruitment and selection; (3) worksite and mentor recruitment; (4) student recruitment; and (5) administrative arrangements such as clerical support, payroll, and so on. We address the first four functions below. The fifth, administrative arrangements, depends entirely on the implementing organization.

School and Classroom Arrangements

If you are working within a school district, include the local teachers' union and staff development department early in the negotiations. Discuss the recruitment process for teachers and students, stipends, classroom requirements, campus security, informed consent, and permission and liability issues.

Teacher Recruitment and Selection

This professional development project requires participation of eight to ten active teachers (including one to two teacher trainers), 60 students, and eight to ten worksite mentors. We suggest entering into letter agreements with all participants. Below we detail plans for teacher recruitment and selection.

The following is a proposed breakdown of practitioner participants: eight active academy or magnet teachers and two active teacher trainers. Active teachers will be a mix

of teachers with academic, vocational, and technical teaching assignments. Active teacher trainers will come from schools of teacher training, vocational instructor training programs, and school district consultants assigned to staff development. We suggest beginning recruitment of participant teachers and setting stipend amounts in January and February before they commit to other summertime activities.

Teacher Candidates

There are two ideal teacher candidates: one with a positive disposition to the instructional practices that we believe are important, the other a "master" teacher with a neutral attitude about integration but an interest in exploring the possibilities. Don't bother working with persons who are overtly hostile to what the training effort proposes to do.

As part of the recruitment process, teacher candidates complete a survey of their backgrounds, typical practices and preferred ways of working within the educational system (e.g., level of comfort with crosscurricular planning), and desired worksite assignment (see Appendix B-1). Candidates will also submit a work sample: the sample should be a project or instructional unit designed by the teacher that they have found to engage students. Results of the survey and an individual interview are part of the selection process. The interview will provide the opportunity for candidates to question the project staff, discuss the work sample, and clarify survey results. An ideal candidate will want to acquire new skills, to work collaboratively with other teachers, and will agree that worksite observation is useful to this end.

Specifying Curriculum and Worksite Observation Plan

The project director and each teacher will discuss plans for developing a curricular unit and select an appropriate worksite assignment accordingly. The following decisions need to be made about the curricular unit: (1) whether the participant will perfect a project or study unit previously taught or create a new project or study unit; and (2) specify which study units and course will contribute domain-specific content to the project (e.g., engineering aspects of design architecture as part of an Engineering Principles course; project management using GIS application as part of a Technology course; Pythagorean theorem application to engineering and construction as part of an

Algebra I course). The project director contacts worksites to effect an appropriate placement.

Worksite and Mentor Recruitment

Contact worksites and recruit ten worksite mentors. An ideal worksite is one that is a current site for work-based learning or internships with established links to schools and assigned mentors. To identify such a site, contact a local high school with an established work-based learning program. Through the high school's program, select candidate worksites and mentors. City or county government agencies, public works, and utilities are an excellent and often overlooked source for worksites and mentors, particularly in technology- and science-related subjects.

A suggested entree protocol includes the following: (1) recruitment letter specifying the desired observation; (2) formal meeting with mentor or other workplace contact; (3) formal agreement with the worksite and mentor. Mentor participation involves the following: serve as key informant during worksite observation week, and serve as contact for teacher participants' questions during weeks 3 and 4 (see Sample Worksite Letter in Appendix B-2). We also invited mentors to serve as reviewers for presentations of the draft curriculum unit (close of week 4) and the final curriculum unit by teachers and students (close of week 6).

Student Recruitment

Student participation is essential to rigorous field testing and evaluation of integrated curriculum. School administration and counseling staff will help to identify prospective students. We sought and received written permission from parents for their child's participation in the project. We advocate paying students stipends for their participation: students are required to complete a daily survey and extensive journal to support field testing the curricular unit and evaluating student learning and satisfaction. (See Student Guide, Appendix B-3.)

Student Candidates

We suggest a sample of students that reflects the diversity of the local high school population—for example, multiple racial and ethnic groups; English proficiency; gender balanced; and previous participation in the range of available programs such as college

preparatory, general, vocational, and special education. Students are presurveyed about their education background and their experiences working on projects, in teams, and with various technologies.

Organization of the Teacher Training Guide

The main body of this guide is organized into three sections corresponding to the major parts of the mini-sabbatical. Each section has two main elements: an introduction and a description of unit activities. In addition to the syllabus, appendices document schedules, protocols, evaluation instruments, and other materials to support implementation.

WEEK 1: INTRODUCTION

Overview

The purposes of the first week are generally to prepare teachers to perform successfully in the mini-sabbatical and, more particularly, to perform successfully in the second week, when they will be required to observe worksites and derive knowledge that can be applied in the development of new curricular units.

In the first week, participants will acquire knowledge and skills of three sorts:

1. First, an understanding of the primary product of the mini-sabbatical—that is, new curricular units that reflect the "Classroom that Works" model.

2. Second, a knowledge of other participants, particularly their background, perspectives, and skills. This will facilitate the exchange of information and insights during the mini-sabbatical and will be particularly important during weeks three and four, when participants are expected to assist one another in the production of new curricula.

3. Third, skills for observing and analyzing worksites. These skills will be applied, with coaching, in the second week when participants enter actual worksites.

Participants also initiate a process of reflection on and integration of new concepts and attitudes into the perspectives that each participant brings to the mini-sabbatical. This process will be facilitated and documented through the regular use of journals.

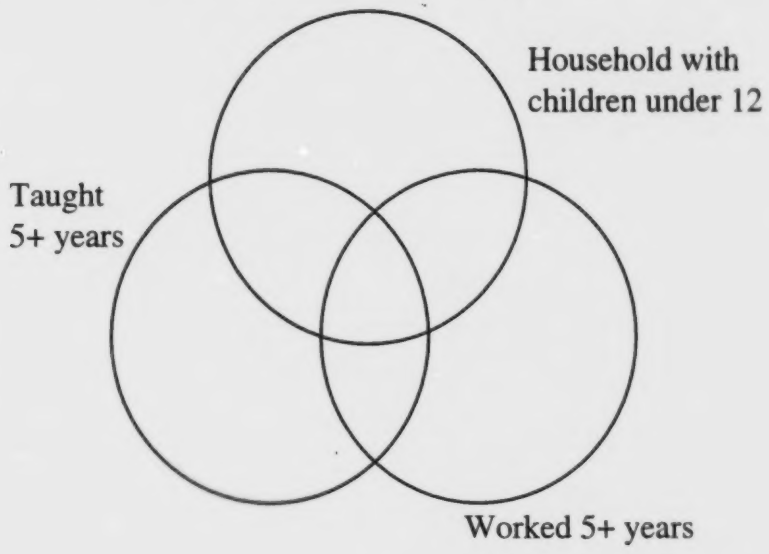
Activity 1.0: Initial Readings

Prior to the first day of activities, mini-sabbatical participants will have received and read selections from the research report, *Classrooms that Work* (see Syllabus, Appendix A-1). The reasons for doing so are twofold: (1) to orient participants to the conceptual basis of the mini-sabbatical; and (2) to set high expectations for engagement and participation in the course.

Activity 1.1: Get Acquainted

The purpose of these two activities is to enable participants to begin learning about each other.

A. Participants make name tags for themselves upon entering the classroom. They also place a sticker with their name on it onto a Venn diagram drawn on chart paper. A mixture of relevant and irrelevant categories works well (e.g., "lives in a household with children under age 12," "has taught five or more years," "worked somewhere besides teaching for five or more years").



B. After teachers place their name tag on the diagram, the facilitator makes some brief statements that summarize the results (e.g., most of you have taught more than five years).

C. Partner introductions: Ask participants to work in pairs. Give them four minutes to interview each other (two minutes per person). Then go around the room having each person introduce his or her partner.

Activity 1.2: Overview of the Mini-Sabbatical

The purpose of this unit is to provide participants with a common understanding of the mini-sabbatical, including the origins of its development, its organization, and their roles and responsibilities.

Participants will have read selections of research reports as background and will listen to a presentation by research staff. The presentation will follow the "Introduction to the Mini-Sabbatical" beginning on page 1, and will discuss the current direction of vocational education research, the theoretical basis for the mini-sabbatical, and findings from the research projects out of which the mini-sabbatical grew. The trainer will then explain the design of the mini-sabbatical and lead a discussion of the syllabus.

Activity 1.3: Introduce Journalling

Materials provided: journal notebook

This activity will explain the purpose of the mini-sabbatical journal and provide participants with a chance to practice writing a journal entry.

One purpose of journals is to assist in the integration of new understandings with one's personal perspective and to account for personal theories that participants hold.

Periodically, the trainers will collect journals. Privacy of authors will be protected, and confidentiality will be maintained in reporting and dissemination.

Participants write in their journals to the following prompts:

- How well does the preceding explanation of the mini-sabbatical match what you thought you were getting into?
- What aspects of the mini-sabbatical, if any, confuse you?
- What aspects do you think you may have difficulty dealing with?
- What aspects are you looking forward to?

An open discussion of participants' questions and concerns follows.

Note: Throughout this guide, we provide multiple journal prompts. In actuality, only one or two such prompts, selected to reflect the direction of the preceding discussion, will be used.

Activity 1.4: Learn the "Classrooms that Work" Model

This activity introduces mini-sabbatical participants to the "Classrooms that Work" (CTW) model. Teachers will have read background materials (see Week 1 Syllabus, Activities 1.0-1.5, for these readings) and then hear a presentation. (Slides of the presentation were selected from the briefing, "Designing Classrooms that Work," which can be found in Appendix A-4.) They will discuss the presentation in class. This presentation describes the research project that led to the development of the CTW model, focusing on two classrooms taught by the same teacher, contrasting instructional goals, classroom design, teacher roles, school context, and student perceptions.

At the conclusion of the presentation and discussion, teachers will spend 15 minutes journalling in response to the following prompts:

- What were the outcomes in classrooms that "worked"?
- What were the essential elements of a successful classroom environment?
- What did "generic skills" refer to? What was meant by "situated" learning?
- Did anything seem especially surprising? Familiar?
- Were there parts of the model that you thought were more important than other parts?
- Were there dimensions of the model that you thought were irrelevant?
- Were the behaviors, skills, and attitudes of students familiar to you or typical of students you commonly work with?

From this unit, participants will learn (1) the constructivist perspective and its meaning for classroom practice; (2) cognitive science notions about the difference between domain-specific and "generic" skills, and the importance of "situated" practice; (3) the dimensions of classroom environments that are successful in imparting generic skills; and (4) the close relationship between the dimensions. Successful classrooms integrate appropriate goals, tasks, roles, and routines, typically around a project of some

sort. The CTW model involves integrating authentic or "work-inspired" goals, tasks, roles, and routines, typically around a project or investigation.

As the presentation of the model proceeds, project faculty will make connections back to the discussion of authentic practice, high quality, and teachers' personal theories that were introduced and discussed in Activity 1.2 (Overview of the Mini-Sabbatical).

- Which aspects of project work would fit the model and which wouldn't?
- How are the ideas of situated meaning and authentic practice connected?
- Why is the mini-sabbatical built around a worksite visit?

Activity 1.5: Analyze Classroom Case Studies

This activity is designed following a "jigsaw" model, where participants share responsibility for presenting information to each other.

Participants pair up by subject taught. Each pair is given a case study from the "Classrooms that Work" report that relates to their specialization. They are given 20 minutes to review the case and to discuss key points. They focus on finding specific examples of the dimensions in the "Classrooms that Work" model, and on identifying the "authentic" culture of practice developed by each teacher and his or her students.

In a trainer-led discussion, participants share what they have learned, following the order of the case studies in the report. The following are some prompts for leading the discussion:

- Give examples of the CTW model at work in the case study classroom: student roles, type of work, teacher roles, and so on.
- What authentic work context was present and how did it affect the design of the class?
- How good a model is CTW? Were there aspects of these classrooms that did not fit the model or that could be interpreted differently?

Activity 1.6: Practice Team-Building

Materials provided: Zulu love letter pin kits

The purposes of this activity are to focus on the use of teamwork as a generic skill and to provide a specific basis for a discussion of high-quality learning.

Participants will pair and make Zulu love letter pins.[1] Each team may accomplish the task in any way they see fit. They must keep careful notes on their goals (what they want to get out of the experience) as well as the process, including difficulties, breakthroughs, and any new awareness and/or insights about learning and designing learning. Then the teams develop a two- to three-minute presentation to the group. The mini-sabbatical trainer models appropriate teacher roles such as coaching, scaffolding, and fading.

After presentations, participants engage in a trainer-led discussion:

- Which dimensions of the "Classrooms that Work" model, if any, were exhibited in this activity?
- Which dimensions were not? How could the activity be modified to incorporate the missing dimensions?
- How could the activity be modified to raise the quality of learning opportunity? What changes would lower the quality of learning opportunity?

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[1] These inexpensive beading kits are commonly available in craft stores. Any craft kit for an unfamiliar folk art will produce the desired effect.

Activity 1.7: Make Journal Entries

Participants write for about 15 minutes on the following prompt (the questions in Activity 1.6 can also be used):

- Write a note to one of your colleagues back at school, explaining what makes a "classroom that works."

Activity 1.8: Learn Five Traits of Good Teaching

The purpose of this activity is to help participants think about what constitutes good teaching from the perspective of a student engaged in learning. Participants will read an article by Collins and Frederiksen, "Five Traits of Good Teaching: Learning, Thinking, Listening, Involving, Helping"; then they will attempt to apply the readings to the analysis of their own learning process. Finally, they will adapt the learning activity for a set of hypothetical students.

Discussion will test the participants' understanding of their readings:

- What does the cognitive research community think about good teaching practice?
- What are the arguments for and against assessing teachers in terms of primary traits of teaching?

Using the CTW model and insights from the discussion, each participant then outlines a classroom design for a project requiring his or her own students to make Zulu love letter pins.

Participants discuss their learning in light of the readings:

- Can you draw metaphors from your learning experience to aspects of the CTW model?
- What are traits of good teaching that would facilitate learning on a pin-making project such as this?

Finally, participants should review their previous journal entries ("write a note to your colleagues back at school on what makes a classroom work") and reflect on making the Zulu love letter and the discussion that followed. Then they should enter any modifications to what they had written earlier, if needed.

Activity 1.9: Learn Observation and Documentation Methods

Materials provided: blank field notebook, sample fieldnotes, worksite videos, and videotape player and screen

The purpose of this activity is to introduce participants to the skills they will need to perform, analyze, and document worksite observations in the second week. Participants will hear presentations on the goals and techniques of worksite observations and have the opportunity to practice prior to placement in the field.[2]

Presentations by the mini-sabbatical trainers will address (1) authentic practice, work context, and the rationale for worksite observations; (2) understanding work from workers' perspectives; (3) techniques for observing and documenting work; (4) types of tasks suitable for the design of high-quality learning experiences; and (5) logistics of workplace observation for the second week (e.g., assigned mentor, schedule, directions and parking). Briefing slides for these presentations can be found in Appendix A-2.

[2] We suggest that teachers observe work at the training site. The idea is to facilitate practice in observing unfamiliar activities. Examples of assignments that were available at RAND: electrician, computer troubleshooting and repair, and public relations.

WEEK 2: OBSERVE AUTHENTIC WORKSITE PROBLEMS

Overview

Materials provided: "The Job Study," a tutorial and reference guide for teachers (see Appendix A-3); and a blank field notebook. The project faculty will arrange for each worksite mentor to issue teachers any special clothing or gear required at the worksite and to explain its use.

The goal for Week 2 is for teachers to observe problem solving in worksites. Teachers are matched to worksites and mentors based on their proposed curriculum units. The project faculty will encourage teachers to be inquisitive and to take the worker's lead in directing their observation. The faculty will coach teachers, as needed, on observation techniques.

Activity 2.1: Make Worksite Observations

Five days are required to accomplish this stage of the mini-sabbatical. On the first day, teachers travel to selected worksites and meet their mentors, department supervisor, and other staff members for a general orientation to the workplace.

On day two, teachers observe work tasks, beginning with routine and frequently performed tasks and then shifting to infrequent and complex ones. Routine tasks form a background of activity against which less frequent, but more complex and system-oriented aspects of the job can be understood.

The third day is devoted to summarizing fieldnotes and debriefing with other teachers and the project faculty.

Teachers return to the worksite on day four to observe start-up routines and follow up on task observations begun on the second day. The remainder of the fourth day is reserved for brief 20-minute interviews with a department head and trainer responsible for staffing the department. From these interviews, teachers appreciate the connections between the department and the larger organization, performance expectations for employees, and staff training.

On the fifth day, teachers return to the classroom for a final round of debriefing and begin writing up a summary of the department, the tasks performed, authentic problems encountered, and how workers go about solving problems. Authentic problems and the work context form the basis by which teachers develop classroom learning experiences.

WEEKS 3 AND 4: DESIGN CURRICULUM AND PLAN ASSESSMENT

Overview

The goal for Weeks 3 and 4 is to learn how to design and assess "classrooms that work" based on results of the work observations and analysis in Week 2. The third week begins with discussions on approaches and options for curriculum and assessment design. At the end of the third week, each participant will be asked to present a first draft of his or her curriculum and associated assessment plan to the other teachers. The project faculty will provide coaching and direct teachers to use each other as resources for curriculum development. During the fourth week, teachers refine their projects or investigations, learn about students assigned to their experimental class, prepare their classrooms, and make a presentation of their experimental classroom design to other teachers, project faculty, and worksite mentors.

During this phase, some participants may discover that they wish to observe particular aspects of the worksite again. It may be possible to arrange for additional visits or to contact the appropriate worksite mentors or department supervisor for follow-up discussions.

Activity 3.1: Summarize Authentic Practice

The first step in the process of moving from worksite observation to instructional design is to produce a useful written summary of authentic practice based on the results of the job study. To do this, teachers make their first critical transition: from job tasks to authentic problems.

Faculty will brief teachers on authentic problems and authentic cultures of practice using as an example a written description of services for disabled travelers, "A Day in the Life of a Tour Manager for Handicapped People." The subject matter of the example has implications for the integration of academic science classes and the transportation and health care industries, providing a basis for making the distinction between "authentic" science and "school" science. Teachers will discuss examples from their own job study where distinctions between disciplinary and authentic practice become obvious.

Following this, a trainer-led discussion on the "disabled travelers" example will address the following dimensions:

- skills, tasks, and work context for this job
- authentic problems
- categories and examples of instructional goals that address authentic problems
- aspects of a hypothetical classroom environment

Then, teachers will write a summary of authentic practice based on their worksite observations. The authentic practice summary will address the above dimensions. First, they will work individually for one hour, and then in same-subject pairs (e.g., math, English, science, and technology) for another hour. The written authentic practice summaries will then be exchanged for comment by still another teacher.

Activity 3.2: Select Curricular Approach

In this activity, teachers explore alternative approaches to curriculum development and integration. Participants will read and discuss selected modules from *Getting to Work: A Guide to Better Schools* to gain an appreciation for the breadth of alternatives[3] and the advantages and disadvantages of each approach.

Module 2, Units 2 and 3 are employed as references that teachers may use to learn more about different industry frameworks and examples for designing curricula based on authentic problems (e.g., All Aspects of the Industry, Unit 3-8; Hoachlander's Alternative Aspects of Industries, Unit 3-9; and Industry Themes Used for Integrated Projects, Unit 3-10).

Finally, each participant must choose one approach for the curricular unit that he or she is developing; the approach may be a novel or synthesized one. Participants will describe the selected approach and the rationale in their draft instructional design.

[3] We limit discussion of alternative approaches to those which can be accommodated by changes initiated by one or two teachers, rather than approaches that require organizational redesign and adoption by entire departments or schools.

Activity 3.3: Design a "Classroom that Works"

This activity is the second critical transition point in the mini-sabbatical. Teachers shift their understandings about authentic problems and authentic culture of practice to instructional design that reflects the CTW model.

The activity begins with a discussion that again uses the disabled travelers example. After review of the authentic practice summary, elements of the instructional design for a hypothetical classroom are discussed: instructional goals, classroom design, teaching methods, and alignment with official curriculum. The example on the next page shows a completed document for the disabled travelers project that can be used in the discussion.

After the briefing, teachers begin work on their own draft instructional designs. Teachers must build their new curricula around a project or investigation that follows authentic practice and solving authentic problems. Teachers will use the CTW instructional model—with a modification of the "school context" dimension to that of alignment with official curriculum—as a framework.

Participants will produce a written (and perhaps drawn) document that explains their instructional design, using the template in the following example (included in Appendix B-1).

INSTRUCTIONAL DESIGN

Task: Determine the suitability (e.g., physical, social, and technical) of the Metro Red Line for use by a person dependent on an oxygen support system.

Instructional Goals:

Generic:	Generate and evaluate assets
Disposition:	Persistence, question authority
Domain skill:	Human biology of oxygen use, transportation of elemental oxygen, research organization, research theory

Classroom Design:

Culture of practice:	Students are consultants hired to lobby LACMTA to accommodate dependent persons
Product:	Develop intervention or briefing speech to the MTA board
Teacher role:	Supervisor to the consultant
Team:	Scientist, writer

Teaching Methods:

Coach, model research, reinforce continuum of expertise, exploratory learning

Alignment with Official Curriculum:

Biology
Composition

Activity 3.4: Devise Assessment Plan

This activity introduces teachers to assessment options. Teachers will read *Getting to Work*: Module 4, "A Practical Guide to Alternative Assessment" and "The Range of Assessment Strategies" (Appendix A-5).

The activity will open with a discussion of principles and types of assessments.

Teachers will review examples and discuss them. Following this background discussion, the strengths and weaknesses and evaluation criteria for assessments will be covered. The activity closes by turning to applications for curriculum units.

In a follow-up session, teachers will share and critique the assessments they design for the experimental curriculum unit.

Activity 3.5: Develop Teaching and Assessment Materials

This is a critical point for the mini-sabbatical. Teachers begin to explore their instructional and curriculum design skills and habits of practice. Teachers will work at their own pace and with products clearly understood: draft presentation of the instructional design due at the close of Week 3 and draft presentation of the curriculum and assessment plan due at the close of Week 4. Faculty monitor teachers' progress and provide support as needed.

Activity 3.6: Present Draft Instructional Design

In this activity, which will be repeated as Activity 4.3, participants receive feedback from peers and faculty that will help them improve their classroom design plans.

Teachers will be divided into two groups. Each member of a group will spend five minutes describing his or her draft classroom design. A group facilitator will elicit comments for another five minutes. When everyone has had a turn presenting, the entire class will reconvene for a trainer-led debriefing.

Teachers will need to have answers to the following questions:

1. What knowledge and skills will students acquire (academic, generic skills, work-related attitudes, social skills)?

2. What will constitute its "authentic practice"?

3. What content area(s) will your curriculum unit be based on?

4. What task will you assign the students (i.e., what will be the objective of their project)?

5. How will you assess students' progress towards the goals you have defined? What instruction-level feedback will you need (i.e., benchmark subtasks you expect the students to accomplish; indicators of desired attitudes; and so on)?

6. What resources and materials will you need?

Activity 4.1: Learn To Conduct Action Research

The purpose of this activity is to provide participants with an understanding of what action research is and how it will be used during the fifth and sixth weeks when they experiment with teaching and assessing their CTW curricular units. Participants will read Bullough and Gitlin, Chapter 8, "Action Research." The faculty will lead a discussion on the value added to the mini-sabbatical by action research, and draw out teachers' expectations relative to sharing results. The faculty will urge teachers to tell their own stories in their professional journals and at professional meetings.

As part of action research, participants will make daily journal entries for the remainder of the mini-sabbatical. These will help capture teacher participants' new understandings and concerns.

Activity 4.2: Discuss Logistics for Weeks 5 and 6

Before moving to the campus classrooms, faculty and teachers will discuss location and parking directions, room assignments, getting students to the right places, schedule, and so on.

There will be a general discussion on the feasibility of setting up workplaces in classrooms and classroom and curriculum design aspects that might be altered without compromising essential aspects that facilitate learning.

Teachers will review student pre-course survey results for students assigned to their class.

Activity 4.3: Present Draft Curriculum Design and Assessment Plan

This presentation is more formal than the one in Activity 3.6. Each participant will present his or her curricular unit and assessment plan before a panel of peers, mentors, and the mini-sabbatical project team. A school administrator may be included on the panel as well.

This time, emphasis will be on design of activities and resources for actually implementing the curriculum. Teachers will need to address the following questions:

1. What are your instructional goals?

2. How will you engage students in the project? How will you explain to them its purpose and relevance?

3. What provision have you made for team-building? What are your criteria, if any, for selecting and building teams?

4. What are your expectations for students' behavior and achievement? For whole-class, group, and individual activities?

5. What is your timeline for tracking students' project activities (e.g., by when should students have defined their goals, accomplished key subtasks, and so on)?

The teacher will complete the "Curriculum Revision Log-Baseline" (see Appendix B-1) as a record of their curriculum design at the beginning of the teaching phase of the mini-sabbatical.

WEEKS 5 AND 6: TEACH AND ASSESS THE CTW CURRICULUM

Overview

The final two weeks of the mini-sabbatical involve teachers pilot testing the curriculum unit. The goal is for teachers and students to take center-stage in an exploration of the issues involved in implementing "Classrooms that Work."

Each teacher is assigned seven to eight students who are in class for two hours per day. Teachers and students will complete daily journals and short surveys about the learning experience. Some classroom activity will be videotaped. The videotapes will be shown to teachers daily to give them feedback on the progress of their units and to facilitate reflection on and transformation of their habits of practice.

The faculty will circulate throughout the classrooms to observe students and teachers. Faculty will focus their observations on aspects of the CTW instructional model. On the final day of the mini-sabbatical, teachers will make a final presentation of their instructional design. The outcome for each teacher is *presentation of a fully specified instructional design and curriculum unit that reflects authentic practice.*

In Weeks 3 and 4, teachers have already designed initial versions of their curricular units and instructional design. The pilot will enable teachers to refine their designs. Daily assessments will be used to capture introduced alternative perspectives and carefully document the classroom activity. These include (1) what students learned (student journal); (2) what activities students involved themselves in during classroom sessions (student activity report); (3) classroom dynamics (teacher journal and coaching panel); and (4) planned classroom and project/investigation activities (revision log). The presentation of the final design is the formal close of the mini-sabbatical.

The curriculum documents, journals, and survey data also serve the purpose of inquiry into school-to-career and integration reforms. The mini-sabbatical project team will use this data to evaluate what the mini-sabbatical accomplishes in the following areas: (1) providing an alternative professional development model for school-to-career and integration reforms; (2) developing technical assistance methods for introducing constructivist teaching and learning into high schools; and (3) better understanding

tradeoffs between the "official" curriculum (as represented in standards or state frameworks), the "implemented" curriculum (what teachers develop in the mini-sabbatical), and the "attained" curriculum (what students learn).

Activity 5.1: Opening Assembly

Materials provided: Student handbooks, notepaper, pens, chart paper for examples, blank student checklist forms

On the first day of the class pilot test, we begin with an opening assembly. It is an opportunity for all participants in the pilot test to become clear about the purpose of the mini-sabbatical and their part in it. The assembly agenda includes mutual introductions of mini-sabbatical project staff, teachers, and students. Students will receive their class assignments, meet their class teacher, and learn how to complete journal entries and checklist activity reports.

On subsequent days, students will report directly to their teachers. Mini-sabbatical faculty and teachers will continue to hold brief meetings at the beginning of each day. Announcements, modifications, and organizational questions will be handled at this time.

Training for completing the journal and checklist report is as follows. Discuss the purpose of the journal and checklist. Ask the following questions:

- For those that have journalled before, what is the benefit of journalling?
- What should you do if you cannot think of anything to write?

Students should understand that their daily reports and journals are important to the project. The mini-sabbatical is intended to help teachers develop some new classroom methods, and student feedback is needed to help determine how new methods work for students.

Explain identifiers used on journals and checklists: teacher name and ID, and student name and ID. Students then practice journalling. The subject is "I am a student" and each student is asked to respond to the following prompts:

- Are you pleased with what you have accomplished as a student this past school year?
- Have you had any disappointments?

- Has your view of yourself as a student changed over the last year?
- Are you on track for becoming the type of student you want to be?

Students then engage in open discussion of the journal assignment. Working in groups, students discuss the assignment, answer each other's questions, and list questions that the group is unable to answer.

Someone from each group will ask the group's question(s) to the full class; the mini-sabbatical leaders will join the discussion at this point.

After journalling, students will practice writing checklist reports. First they will discuss the purpose. Leaders will distribute sample reports and blank practice forms and ask students to review the sample "activities report" by sections:

- Identifier section
- Content section
- Process section
- Resources section

Using a blank report, the project faculty will offer examples and ask students to "report" the activity—for example, draw examples from the CTW report.

Activity 5.2: Make Student Journal Entries and Reports on the Experimental Class

At the end of each class session, students will gather in a common area for reflection and discussion. Each student will make a one-page journal entry and complete a checklist report.

- The *daily student journal* is a device to facilitate students' reflections on new understandings about (1) the connections between disciplinary and technical knowledge and work activities, (2) new student roles, and (3) interactions with teachers and others.[4]

- The *checklist report* is a simple accounting of what students worked on during each classroom session.

[4] The mini-sabbatical project leaders collect, review, and summarize the daily journal entries. The privacy of student authors and confidentiality will be maintained.

Activity 5.3: Make Teacher Journal Entries and Reports on the Experimental Class

Teachers are also "learners" during the pilot test. They will address this experience in their own journals. Teachers will make daily entries of two to three pages (10-15 minutes of reflection and writing) at any time during the day.

The journals have several purposes. One is to encourage teachers to reflect on the experience of trying to implement the curriculum they have designed. Another is to provide teachers a regular opportunity to record their impressions and reactions to new types of teacher roles. In addition, teachers' journals will be useful to the project staff as we provide feedback and when we attempt to evaluate the success of the mini-sabbatical and consider how to improve it.

The journals can take any form and may contain any content that teachers wish. In other contexts, such journals have been used to move across several lines of thought:

- Descriptive: Here is what I/we did today in the classroom.
- Evaluative: This is how I think the lessons/activities/techniques worked.
- Diagnostic: Here are my current ideas on why they did or did not work.
- Constructive: Here is what I might have done differently, if anything, or what I may try instead as I continue to teach the curriculum.

Typically, one cannot move through all these stages of thought on every topic. Sometimes one can describe an activity but not evaluate it; or one can describe and evaluate it, but not diagnose reasons for success or failure, or figure out what to do differently in the future.

In terms of topics, it may be useful to think of the CTW model. For instance, the teachers may focus on whether students are using and learning generic skills and attempt to record evidence of such learning.

After journalling, teachers will practice completing the curriculum revision log (see Appendix B-1). The goal of the logs is to track changes in the specification of

instructional goals, content, resources, learner activities, and organizational support. Teachers will complete a detailed baseline survey record on the first day, and submit daily revision logs thereafter.

In the training session on keeping revision logs, teachers will discuss the purpose and format of the logs. Leaders will distribute a sample log and blank practice forms and ask teacher participants to review the sample "revision log" by sections:

- Identifier
- Goals and outcomes
- Design
- Teaching methods
- Resources
- Organizational supports

Using a blank report, the project facilitator will offer examples and ask teachers to "report" the activity (e.g., draw examples from the CTW report).

Each section has a rationale column. Participants will practice writing a rationale note for two to three examples and discuss what constitutes a "good" rationale note.

Activity 5.4: Coaching Panel

Beginning the second class day and continuing daily, the project staff will select interesting video segments from the day's class. Teachers will spend 15 minutes viewing the selected video segments followed by 15 minutes of (voluntary) discussion of observations.

This activity is based on the concept of filmmakers' use of dailies to know what they "have" in order to make revisions. Alternatively, some teachers may want to use video segments in the way that coaches and athletes use game films to critique and improve their play.

Observations should focus on the following:

- To what extent teachers are relinquishing "center stage" in favor of a coaching and facilitative role
- How much students are learning
- How much the class stresses thinking
- How much a teacher listens and is responsive to students
- How much all students are involved
- How much teachers and students help each other learn
- What happens during assessment activities
- Examples of modeling, scaffolding, and fading

Activity 5.5: Instructional Design

This activity is repeated daily for the remainder of the mini-sabbatical. Based on the day's events in the classroom, teachers make adjustments in their instructional design and curriculum unit. The final 75 minutes of the day is set aside for this purpose. The project faculty will circulate throughout classrooms to assist teachers.

Activity 5.6: Final Presentation by Teachers

On the very last day of the mini-sabbatical, students, teachers, and project staff convene for a final presentation. Teachers present final versions of their instructional design and curricular unit. In this iteration, they discuss the technical and professional judgments involved in developing curricula.

The audience for the performance may also include worksite mentors; school, community, and district guests; guests of mini-sabbatical project faculty; and guests of teachers.

REFERENCES

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Stasz, C., McArthur, D., Lewis, M., & Ramsey, K. (1990). *Teaching and learning generic skills for the workplace* (NCRVE Document No. MDS-066; RAND Document No. R-4004-NCRVE/UCB). Berkeley and Santa Monica: National Center for Research in Vocational Education, University of California at Berkeley, and RAND.

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Stasz, C., Ramsey, K., Eden, R., DaVanzo, J., Farris, H., & Lewis, M. (1993). *Classrooms that work: Teaching generic skills in academic and vocational settings* (NCRVE Document No. MDS-263; RAND Document No. MR-169-NCRVE/UCB). Berkeley and Santa Monica: National Center for Research in Vocational Education, University of California at Berkeley, and RAND.

APPENDIX A-1
MINI-SABBATICAL SYLLABUS AND READING LIST

Syllabus

This syllabus summarizes the scheduled activities of the mini-sabbatical. It is organized by day (i.e., by class meeting) and assumes a four-day week and six to eight hours of training time each day. The syllabus indicates the day's chief topic or activity, what you should read to prepare for class, and what you will do during class. The list of required readings is found after the description of daily activities. If an assignment is due (for instance, if journals will be collected) on a given day, that is indicated in ***bold italic.*** For bibliographic information, see the "Reading List" that follows this syllabus.

Week 1: Prepare for Worksite Observations

Monday - Activities 1.0-1.5

Read: Collins, Brown, and Holum, "Cognitive Apprenticeship: Making Thinking Visible"

Classrooms that Work, Summary and Chapters 3-6

Journal: Fifteen minutes on topic

Tuesday - Activities 1.6-1.9

Read: Collins and Frederiksen

Journal: In response to provided prompts

Wednesday - Activity 1.9, continued

Journal: In response to discussion questions about in-class presentation

Due: ***Practice fieldnotes***

Due: ***Journal entries from Week 1***

Week 2: Observe Worksites (worksite locations to be arranged by mini-sabbatical staff)

Monday - Activity 2.1, Offsite Fieldwork

Journal

Tuesday - Activity 2.1, Offsite Fieldwork
Journal
Make fieldnotes

Wednesday
Journal
Summarize fieldnotes

Thursday - Activity 2.1, Offsite Fieldwork
Journal
Make fieldnotes, conduct interviews

Friday - Activity 2.1 (conclusion), Activity 3.1
Journal
Write: Begin summary of authentic practice
Due: ***Journal entries from Week 2***

Week 3: Design Curriculum

Monday - Activities 3.1-3.3
Read: *Getting to Work*: Module 2, "A Day in the Life of a Tour Manager for Handicapped People," Sections 1, 3, 4, 6, 8, 16
Write: Finish summary of authentic practice
Journal
Due: ***Copy of fieldnotes from Week 2***

Tuesday - Activities 3.4-3.5
Read: *Getting to Work*: Module 4, "A Practical Guide to Alternative Assessment"
Journal
Due: ***Summary of authentic practice***

Wednesday - Activity 3.5
Journal
Due: ***Explanation of curricular approach***

Thursday - Activities 3.5-3.6
Journal
Due: ***Draft curriculum design and assessment plan (presentation to peers and faculty)***

Week 4: Finish Curriculum and Plan Assessment

Monday - Activities 3.5, 4.1
Journal
Read: Bullough and Gitlin

Tuesday - Activities 3.5, 4.2
Journal

Wednesday - Activity 3.5, continued (move to classroom site)
Journal

Thursday - Activities 3.5, 4.3
Journal
Due: ***Curriculum design presentation***

Week 5: Teach Curriculum

Monday - Activities 5.1-5.6
Revision Log
Journal

Tuesday - Activities 5.1-5.6, continued
Revision Log
Journal

Wednesday - Activity 5.1-5.6, continued
Revision Log
Journal

Thursday - Activities 5.1-5.6, continued
Revision Log
Journal
Due: ***Journal entries for Week 5***

Week 6: Teach and Assess Curriculum

Monday - Activities 5.1-5.6, continued
Revision Log
Journal

Tuesday - Activities 5.1-5.6, continued
Revision Log
Journal

Wednesday - Activity 5.1-5.6, continued
Revision Log
Journal

Thursday - Activities 5.1-5.6, continued
Journal
Videotape
Due: ***Final presentation of curriculum design and assessment (to peers and faculty)***
Due: ***Journal entries for Week 6***
Due: ***Revision logs for Week 6***

Reading List

A day in the life of a tour manager for handicapped people. (1989). Excerpt from D. W. Howell, *Passport: An introduction to the travel and tourism industry.* Cincinnati, OH: South-Western Publishing Company.

Bullough, R. V., & Gitlin, A. (1995). *Becoming a student of teaching: Methodologies for exploring self and school context* (pp. 179-202). New York: Garland Publishing.

Collins, A., Brown, J. S., & Holum, A. (1991, Winter). Cognitive apprenticeship: Making thinking visible. *The American Educator*, pp. 6-46. (Published by The American Federation of Teachers.)

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Stasz, C., Ramsey, K., Eden, R., DaVanzo, J., Farris, H., & Lewis, M. (1993). *Classrooms that work: Teaching generic skills in academic and vocational settings* (NCRVE Document No. MDS-263; RAND Document No. MR-169-NCRVE/UCB). Berkeley and Santa Monica: National Center for Research in Vocational Education, University of California at Berkeley, and RAND.

Case studies are Summary and Chapter 3, pp. xiii-xxiii and 21-59; Chapter 4 (English), pp. 60-82; Chapter 5 (Electronics), pp. 83-98; and Chapter 6 (Industrial Arts), pp. 99-104.

Suggested Mini-Sabbatical Schedule

Week	Location	Days and Hours
1	Training Site	Mon.-Wed., 9-3
2	Worksites	Mon.-Tues.-Thurs., TBA
	Training Site	Wed., Fri., 10-2
3	Training Site	Mon.-Thurs., 9-3
4	Training Site	Mon.-Wed., 9-3
	Local High School	Thurs.-Fri., 9-3
5	Local High School	Mon.-Thurs., 9-3
6	Local High School	Tues.-Fri., 9-3

Schedule of Activity Units and Project Facilitators Planning Worksheet

Week, Day	Unit	Approx. Time	Facilitator(s)
Week 1, Day 1	1.1	45 minutes	
	1.2	20 minutes	
	1.3	60 minutes	
	1.4	90 minutes	
	1.5	60 minutes	
Week 1, Day 2	1.6	45 minutes	
	1.7	20 minutes	
	1.8	60 minutes	
	1.9	180 minutes	
Week 1, Day 3	1.9	Full day	
Week 2, Day 4 (worksite)	2.1	Fieldwork	
Week 2, Day 5 (worksite)	2.1	Fieldwork	
Week 2, Day 6 (training site)	2.1	Full day	
Week 2, Day 7 (worksite)	2.1	Fieldwork	
Week 2, Day 8 (training site)	2.1	150 minutes	
	3.1	150 minutes	
Week 3, Day 9	3.1	90 minutes	
	3.2	135 minutes	
	3.3	75 minutes	
Week 3, Day 10	3.4	240 minutes	
	3.5	75 minutes	
Week 3, Day 11	3.5	Full day	
Week 3, Day 12	3.5	180 minutes	
	3.6	150 minutes	
Week 4, Day 13	4.1	60 minutes	
	3.5	255 minutes	
Week 4, Day 14	4.2	75 minutes	
	3.5	240 minutes	

Week, Day	Unit	Approx. Time	Facilitator(s)
Week 4, Day 15 (move to classroom sites)	3.5	Full day	
Week 4, Day 16	3.5	180 minutes	
	4.3	150 minutes	
Week 5, Day 17	5.1	90 minutes	
	5.2	60 minutes	
		60 minutes	Class
	5.4	60 minutes	
	5.5	90 minutes	
Week 5, Day 18	5.1	5 minutes	
		120 minutes	Class
	5.2	45 minutes	
	5.4	45 minutes	
	5.5	75 minutes	
Week 5, Day 19	5.1	5 minutes	
		120 minutes	Class
	5.2	45 minutes	
	5.4	45 minutes	
	5.5	75 minutes	
Week 5, Day 20	5.1	5 minutes	
		120 minutes	Class
	5.2	45 minutes	
	5.4	45 minutes	
	5.5	75 minutes	
Week 5, Day 21	5.1	5 minutes	
		60 minutes	Class
	5.2	45 minutes	
	5.4	45 minutes	
	5.5	75 minutes	
Week 5, Day 22	5.1	5 minutes	
		60 minutes	Class
	5.2	45 minutes	
	5.4	45 minutes	
	5.5	75 minutes	

Week, Day	Unit	Approx. Time	Facilitator(s)
Week 5, Day 23	5.1	5 minutes	
		120 minutes	Class
	5.2	45 minutes	
	5.4	45 minutes	
	5.5	75 minutes	
Week 5, Day 24	5.6	120 minutes	All (videotape)
		60 minutes	Feast
		120 minutes	Close down

Total training days: 24
Total activity units: 25
Total trainee contact hours: 144

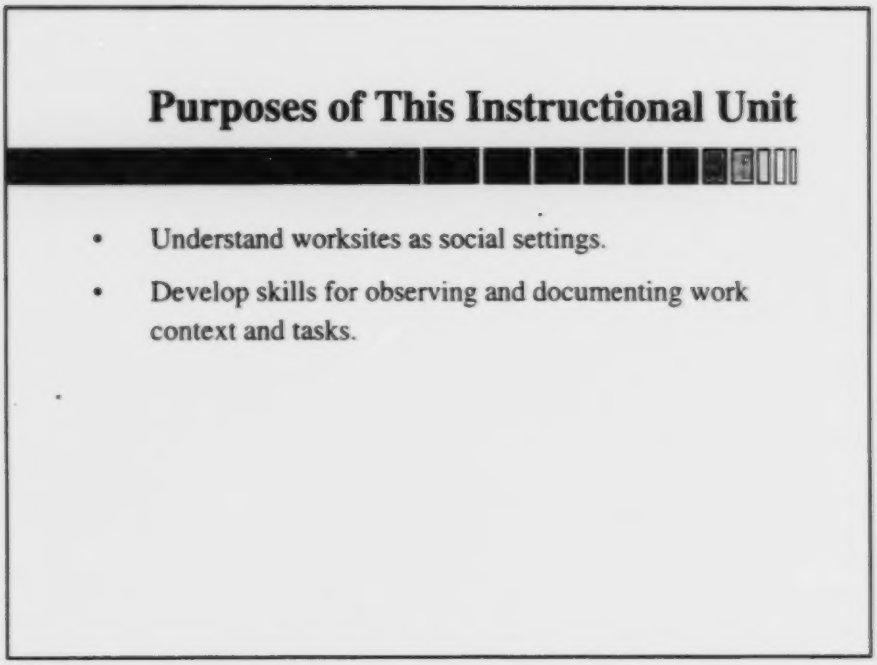
APPENDIX A-2

WORKSITE OBSERVATION

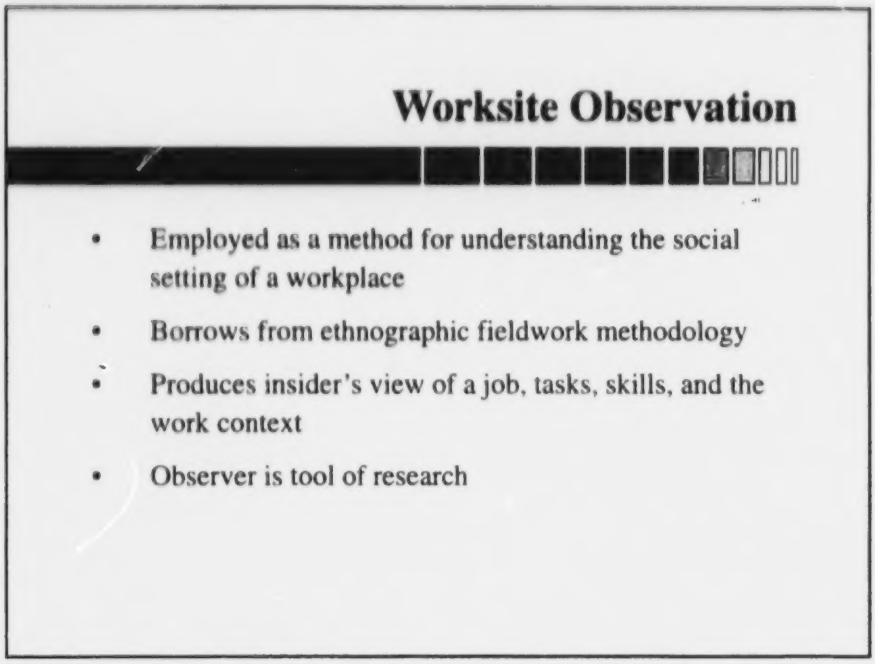
A Practical Preparatory Course for High School Teachers

Mini-Sabbatical for Teachers and Teacher Trainers

Kimberly Ramsey
RAND


Purposes of This Instructional Unit
• Understand worksites as social settings.
• Develop skills for observing and documenting work context and tasks.

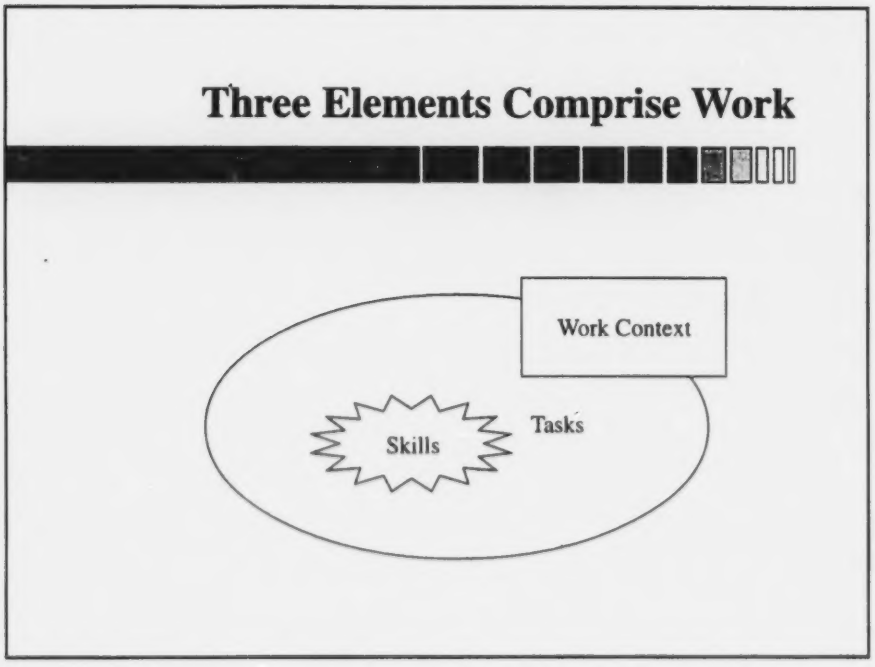
The briefing provides background on worksite observation. Discussions will address the worksite as a social setting and the appropriateness of borrowing ethnographic techniques to understand work. The second half will focus on skills for observing and documenting work context and tasks.


Worksite Observation
• Employed as a method for understanding the social setting of a workplace
• Borrows from ethnographic fieldwork methodology
• Produces insider's view of a job, tasks, skills, and the work context
• Observer is tool of research

This very training room is a social setting. The people, objects, and their activities make this classroom distinctive from your own high school classroom. Just as this classroom represents a social setting, so do the workplaces you will observe. These workplaces have their own distinctive people, objects, and activities organized to solve the authentic problems they face.

Understanding these authentic problems and what "differences make a difference" is what ethnographic fieldwork sets out to accomplish. We borrow from the ethnographic tradition because its approach and methods produce an insider's view of a job, skills, tasks, and the work context.

Your understanding of the worksite and the authentic problems that are being solved will largely depend on your approach as observer. The observer is the tool of research. So, if you enter the workplace with biases, or analyze your observation with a biased view, the curricular units may suffer. Incomplete observations will leave gaps in your understanding of authentic work problems and resolutions. Understanding authentic problems fully is the start point for designing curricular units.



We will use a simple definition of work in this project. Work involves three elements: skills, tasks, and work context.

Examples of skills are reading, problem-solving, or cooperation. Skills are employed to accomplish tasks. Tasks involve following procedure and protocol. Making worksite observations is a task requiring various skills. Tasks are carried out in a work context. The work context may be supportive, may be neutral, or may negatively affect accomplishing the task.

Skills in the Workplace

- In practice, skills are embedded in tasks and the social setting.
  - Problem solving
  - Technical skills
  - Attitudes and dispositions
  - Academic skills
  - Communication
  - Teamwork

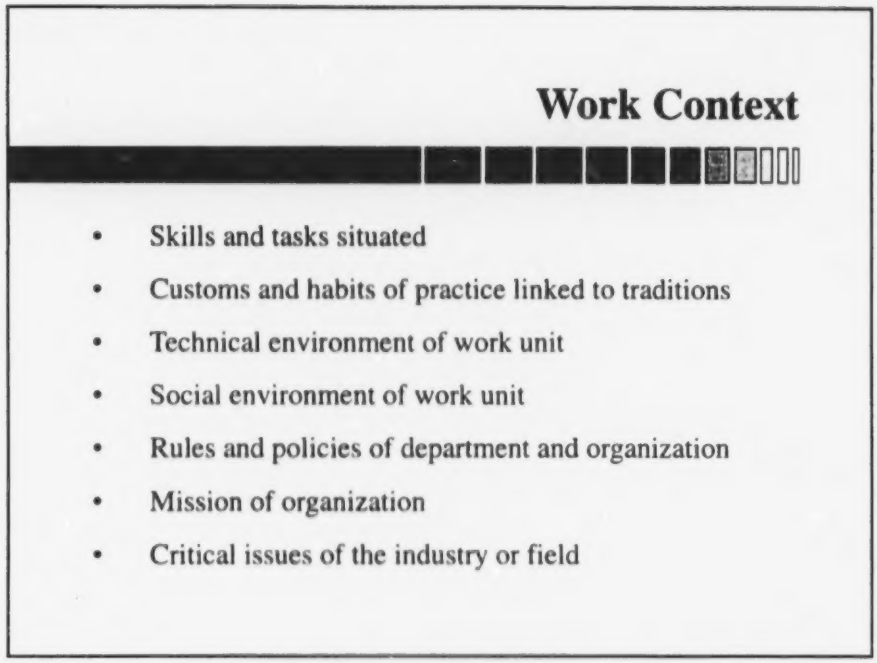
Skills are often discussed and taught as if they are separable from other aspects of work. However, their meaning derives from the task and work context. For example, the skill of writing is used to produce a water sedimentation report by a chemical analysis department of a local manufacturer. However, the skill of writing required to produce public relations copy for a local hospital is quite different. The term "writing skills" means something different in each context.

Tasks in the Workplace

- Skills are used to accomplish tasks.
- Tasks involve three types of activities:
  1. Routine activities
  2. Infrequent activities
  3. Critical activities
- Skills require procedural knowledge.
- Skills are supported by technical and organizational context.

Understanding a task involves more than merely listing the skills involved in accomplishing it.

Tasks are of three types: (1) routine, (2) infrequent, and (3) critical. In your three observation days, you are likely to see all three types. Tasks require procedural knowledge. The technical supports available may influence accomplishment of the task (e.g., working tools, supplies). Likewise, organizational supports may also influence accomplishment of the task (e.g., staffing, teams, and supervision).


Work Context
• Skills and tasks situated
• Customs and habits of practice linked to traditions
• Technical environment of work unit
• Social environment of work unit
• Rules and policies of department and organization
• Mission of organization
• Critical issues of the industry or field

Work context is defined as the set of local factors that help one more fully appreciate what constitutes a task. This implies that skills and tasks are embedded in these local factors. Examples of local factors are listed on the slide.

A major task of the mini-sabbatical involves curriculum development because it is critical to designing successful classrooms. *In light of the above aspects, how might the work context of your high school affect this task?*

Worksite Observation Procedures*

- Observation of everyday activities, relations, and startup of the workday or shift
- Informal interviews with supervisor and workers
- Formal interviews of department head and trainer
- Artifacts collected

*A detailed discussion of worksite observation procedures will follow; also see *The Job Study Tutorial*.

We now turn to address procedures for accomplishing worksite observation.

We ask you to observe three aspects: (1) everyday activities, (2) relations, and (3) startup of the workday or shift. Everyday activities are where and when the major share of tasks and relations occur. Startup of the workday is when you are likely to observe critical rituals and traditions.

To more fully understand the work context, formal interviews with the department heads and trainer are needed. More informal interviews with the supervisor and workers are also needed.

Artifacts collection of forms and procedures is also helpful.

Ethnographic Fieldwork: Negotiating the Social Scene

- Most of the social scene is captured in interactions.
- Repetitious observation of interactions begins to expose the meanings that underlie behavior.
- Interactions are "framed" by an environment that actors constantly attempt to interpret.
- Context captures the remainder of the social scene.

Experience with microethnography has shown that nine-tenths of what goes on in a social scene is captured in interactions. To collect data that will lead to understanding the social scene, ethnographic fieldwork relies on an iterative strategy of observation and questioning. Repeated observation begins to expose the "meaning-making" behind behavior. The observer's understanding of this meaning is sharpened through questioning participants.

Ethnographic Fieldwork: The Question-Observation Unit (1)

- Although two distinctive elements, fieldwork occurs as a single and unitary process.
- Questioning involves
  - fieldworker monitoring progress on understanding the insider's view
  - staging observation efforts for the purpose of seeking answers

The ethnographic fieldwork tradition employs the question-observation unit as a primary method for data collection. Even though questioning and observing are distinctive elements, their effective implementation involves a single and unitary process.

Observations lead to questions and answers that confirm, disconfirm, or add meaning. Questions are asked to help advance your understanding of the insider's view. One needs to stage or plan observations for the purpose of seeking answers.

Ethnographic Fieldwork: The Question-Observation Unit (2)

Observation involves the following:

- helping participants become familiar and comfortable with fieldwork
- watching participants do the same and different things
- watching participants interact under many different conditions
- watching participants interact repeatedly doing the same thing/under the same or similar conditions

Observation is usually a quiet and unobtrusive activity. If the observer is impatient with the process, or simply wants to ask questions, then the goal of understanding the insider's view will not be accomplished.

Having someone come in to observe work is not typical to most workdays. Some workers are skeptical of researchers' purposes. Being quiet and "just observing" is an effective way to help workers accept your purposes for spending time at the worksite. They will become better informants when they truly understand what you are attempting to do.

When you make the observations, your time will be spent doing the following:

- watching workers perform tasks repeatedly
- watching interactions under different conditions
- watching workers interact repeatedly doing the same things under the same or similar conditions

The quality of your job study and thorough understanding of tasks and authentic problems will be determined by your willingness and discipline in making careful observations and questioning.

Descriptive Observation: Practice Seeing More and Adjusting Lens

- You will watch a series of images. Observe and take raw notes.
- Write a fieldnote based on your raw notes, memory, and reactions.

Everyone has a biased way of seeing the world. The next exercise will help you identify some of your biases in anticipation of making worksite observations.

"Images of Technical Work": This exercise will require approximately 20 minutes. We suggest that the mini-sabbatical facilitator make use of a short videotape segment (30-60 seconds) of some type of technical work. Color photographs or slides are alternative media.

Teachers make observations of the "images" of technical work, taking raw notes. Each teacher writes a fieldnote based on the raw notes, memory, and reactions to observations.

Teachers share their fieldnotes with one or two other teachers. They discuss their observation biases in small groups. A volunteer debriefs the exercise with the class.

Descriptive Observations/Questions: Nine Dimensions of a Social Setting

1. Space: physical place or places
2. Actor: the people involved
3. Acts: single actions that people do
4. Activity: the set of related acts that people do
5. Event: a set of related activities that people do
6. Object: the physical things that are present
7. Goal: things people are trying to accomplish
8. Time: sequencing that takes place over time
9. Feelings: emotions felt and expressed

*Spradley, 1980

Observation can become much more systematic if we make use of a framework. This will help overcome individual biases. We will employ a framework we use in our observation research. This framework was popularized by Spradley and has wide use in ethnographic research. The social setting of worksites can be appreciated through the nine dimensions.

Fieldnotes: Producing a Useful Record of the Social Scene

- Documents: descriptive details (e.g., observed behaviors and artifacts, felt emotions)
- Verbatim principle: condensing and summarizing does not capture the essence of actual behavior
- Concrete principle: when describing, use concrete language that will expand and fill out specific detail
- Avoid jargon (i.e., role, hostility, withdrawal, social interaction, ceremony, actor, social situation, and so on)

The documentation of observations by writing a fieldnote is important. Raw notes, memories, descriptive summaries of artifacts, and your felt emotions all contribute to this unified record of observation.

The fieldnote should be written on the same day or the day following observation. Delaying writing fieldnotes may leave gaps in your understanding. The fieldnotes are important background research documents for the curricular units.

Observers should write in whatever style that suits them. There are, however, two principles to keep in mind: document verbatim and gather concrete data. Avoid jargon that is not part of the actual social setting.

Classwork: Practice Producing a Fieldnote

- Take raw notes.
- Produce a fieldnote that includes notes of observations and observer's comments; plan for observation and focused questions.

This is a second opportunity to write a fieldnote incorporating Spradley's social setting framework and principles for documenting descriptive observation.

"Documenting Images of Technical Work": This exercise will require approximately 20 minutes. We suggest that the mini-sabbatical facilitator make use of a second short videotape segment (30-60 seconds) of some type of technical work. Color photographs or slides are alternative media.

Teachers make observations of the "images" of technical work, taking raw notes. Each teacher writes a fieldnote based on the raw notes, memory, and reactions to observations, using Spradley's framework and principles for documenting descriptive observations. The assignment also involves writing an observer's comment (OC), an observation plan, and focused questions to expand the observer's understanding.

The facilitator distributes a sample fieldnote that documents the first day of observation in a typical Job Study. The facilitator collects and makes constructive comments on the practice fieldnote, intending to close gaps in understanding. This is done in anticipation of practice fieldwork and the Job Study (Week 2).

Confidentiality and Ethics (1)

- Participation in the mini-sabbatical does not release teachers as licensed persons from legal requirements or professional ethics.
- Confidentiality and ethical practice guidelines based in anthropology apply during the observation week and thereafter.

We now turn to address issues of confidentiality and ethics.

As licensed persons, your participation in the mini-sabbatical does not release you from legal requirements or the professional ethics of teaching.

We do require that you follow confidentiality and ethical practices based in anthropology in making and using observations, handling and maintaining fieldnotes or artifacts, or in discussing or writing about the worksites.

Confidentiality and Ethics (2)

- Keep fieldnotes on your person at all times.
- Use pseudonyms.
- Remove identifiers from proprietary artifacts obtained during the mini-sabbatical.
- Clients have the right to know your purpose and to decline your presence.
- You are strictly an inquisitive guest.
- This is not an evaluation of worksites.

First, keep fieldnotes on your person at all times. Do not lay down your field notebook. We suggest you use a small spiral notebook in the field. If you need to free your hands, tuck the notebook in your clothing along the back waistline. Never write anything in a field notebook that you would not want workers to see.

Use pseudonyms for workers.

Remove identifiers from proprietary artifacts obtained during the mini-sabbatical.

If you observe in a service establishment, clients have the right to know your purpose and to decline your presence.

You are merely an inquisitive guest, not an evaluator of worksites or skills performance. Do not permit anyone to draw you into such discussions.

Preparation for Worksite Observation

- Concise explanation of the mini-sabbatical's purpose and sponsors
- Inquisitive observer role
- Safety briefing
- Special gear
- Visitor identification
- Adapt dress to that of frontline workers

"Be prepared" is our final advice.

Concise explanations of the mini-sabbatical's purpose and sponsors and your role as an inquisitive visitor is something you should practice.

Reinforce the need for safety briefings, special gear, and visitor identification with the mentor. We have already made these arrangements with mentors.

Adapt your dress to that of the frontline workers you observe.

APPENDIX A-3
THE JOB STUDY TUTORIAL

Purpose of the Job Study Tutorial

The tutorial is an adjunct to discussions and practice sessions. It was designed to provide a ready reference while teachers are in the field conducting and documenting worksite observation.

Contents

- Section A provides a brief overview of the daily schedule and worksite observation tasks to be accomplished.
- Section B is a discussion of the Job Study's planning and organizing aspects.
- Section C is a summary of procedures. They include observation, fieldnotes, formal interviews, artifact collection, and assistance by the mini-sabbatical project team.
- Section D contains the formal interview protocol.

Section A: Overview of Schedule and Tasks

- Day 1: Meet mentor and department staff; explain the study's purpose to staff; get lay of the department and plan for observations; debrief by telephone with mini-sabbatical project staff during afternoon or early evening.
- Day 2: Observe workers' everyday routines and everyday relations with others.
- Day 3: Return to training site; debrief observations as a group with mini-sabbatical project staff; complete and submit a draft of fieldnotes.
- Day 4: Observe startup of the workday and complete task observations; conduct formal interviews with department head and trainer.
- Day 5: Return to training site; complete and submit a draft of fieldnotes and interview notes.

Section B: Discussion of the "Job Study"

For the outsider, another person's job is an incredible blur of people, space, time, and tasks. In our previous research, we constructed a common-sense and low-inference worklife framework to appreciate a job, to organize observations, and to accomplish the descriptive task of detailing frontline work (Stasz et al., 1996). The framework is straightforward and common to all jobs: there is a startup period followed by everyday routines, and each worker is involved in everyday relations with others. Embedded in these three aspects are skills, tasks, and work context.

We blend the worklife framework with what we know about job design to develop a plan for studying various job arrangements. We know that jobs are socially organized and physically situated in particular ways. Thus, we develop different study plans for jobs involving individual work where workers convene in a common space, jobs that involve teaming, and jobs that require workers to be highly mobile or itinerant.

On Day 1, you will meet your worksite mentor. To facilitate scheduling formal interviews, the mentor will arrange introductions with (1) the department manager and (2) the designated trainer for the department or work unit. For small departments, such positions are frequently folded into a single job.

Teacher-observers target for study a job that is related to your proposed curriculum unit. Over the course of the week, you will come to understand the target job. Specifically, you will focus on (1) the social setting for the work and (2) the frequent and critical tasks assigned to the job. Ask the mentor who has agreed to serve as your key informant to help you determine the best approach to accomplish observation of these tasks. The mentor may refer you to the department supervisor and other workers.

Planning task observation encompasses understanding the range of tasks assigned to a job. You need to observe enough workers to exhaust observation of frequent and critical tasks assigned to a job and to witness the same tasks performed by several different workers. You may observe differences in the commission of a task based on expertise of the workers or based on the type and complexity of the problem presented. You will need to "follow" the task to appreciate the complexity of the work and identify high-quality lessons that add value to student internships. Together, the strategies permit

one to observe all the workers involved, their positions in the firm, and their relationship to tasks.

After you have determined the "right" job to study, ask for a tour of the immediate areas where workers congregate and where the job is typically performed.

This is a good opportunity to learn names, titles, and to figure out various roles and reporting relationships. You may also have some time to see the "tools" of the work and to acquaint yourself with typical clients. Be prepared to explain the purpose of the mini-sabbatical and the job study to all you meet, including clients. Even though your purpose is to study the work, if observation involves your contact with clients, they have the right to exclude you from the commission of their services. You need not be overly concerned, however, since it is our experience that most workers and clients are happy to be part of efforts to improve education for young people.

When target jobs convene workers in *a common space and assigned to specific tasks*, we suggest the following Day 2 schedule. With fairly routinized and assigned tasks, the observer is able to witness each task on the average of eight to ten times during the morning. After lunch, the observer—with knowledge of the task and its technical requirements—refocuses on everyday relations involved in accomplishing tasks.

On Day 3, teacher-observers take a break from the field, returning to the classroom to file fieldnotes, debrief and clarify, reflect, and plan.

On Day 4, the teacher-observer returns to the worksite at the beginning of the workday to observe tasks and relationships required to initiate work. We purposely delay this observation until the observer is sufficiently familiar with the work, frontline workers, and other department staff. With completion of task observations, the teacher-observer conducts formal interviews, as we discuss below.

When jobs involve *teaming*, we revise the above approach. Teaming complicates understanding the worksite. This is especially true when various levels of staff work together to accomplish some product or service. An example is a team comprised of an engineer, technician, and laborer. Foremost, the teacher-observer must adjust their conception of the work. The unit of observation is the job/work-unit. Because the job

under study is situated by the team, its meaning is informed by the team. It is necessary to understand and tease out the everyday routines and relations—associated with the job/work-unit—that help the team function and understand how the job under study contributes. This may require an additional half-day on Day 4 to focus observation on everyday routines and relations that center around the team. Observation methods do not change.

When jobs primarily require workers to be *highly mobile or itinerant*, we make a different revision. Because highly mobile work tends to be heavily laden with relations, you will need to study job tasks on Days 1, 2, and 4, ensuring that you travel with different workers during that time. The travel time permits informal interviewing with frontline workers about tasks and work context.

Section C: Job Study Procedures

Observation Methods

Because of the relatively short time at worksites and because many jobs are technical and, in some cases, require licensure and certifications, you will not undertake participant-observation. Rather, you will depend on your observation and questioning skills and workers' knowledge. As a result, teacher-observers have to develop a comfortable relationship with workers over a short period of time.

We employ Spradley's framework for understanding social settings as an organizing guide for questions, observations, and fieldnotes (see Table 1). The social setting framework includes the following dimensions: space, actors, acts, activities, events, objects, goals, time, and feelings. Teacher-observers are asked to make holistic observations and then to document observations in a fieldnote using Spradley's framework as a guide. For new observers, this has proved to offer a workable prop for fieldwork chores.

Fieldnotes

Each day, teacher-observers will transform raw notes of job site observations into a complete fieldnote. This involves observers taking approximately one hour immediately following observations to flesh out the raw notes, using Spradley's framework. Within one to two days, each teacher-observer will produce a draft fieldnote and submit it to the mini-sabbatical project team for review and comment. We expect that each final fieldnote will average 15-20 pages for each half-day of observation.

Formal Interviews

Each teacher-observer will conduct formal face-to-face interviews with a department head and trainer. From their responses, you will have a fuller understanding of the industry, the company or firm, and the department. Important aspects may come to light that are not visibly prominent at the job level. A fuller understanding of work arms teachers with a rich perspective about authentic problems that can focus and shape high-quality classroom environments and lessons.

The interviews are *formal* in that you will employ an interview protocol comprised of a set of standard questions. The interview protocol is included in Section D at the end of the tutorial. Ask each question even if you believe you know the answer. Each interview will require approximately 20 minutes. During the interview, you will take raw notes which you will flesh out later. The previous day's informal interviewing, questioning, and note-taking will sharpen the skills required to accomplish face-to-face interviews. Your knowledge of the work itself should improve your ability to probe during questioning.

Table 1
Spradley's Nine Dimensions of a Social Setting

Space:	Physical place or places
Actor:	The people involved
Acts:	Single actions that people do
Activity:	The set of related acts that people do
Event:	A set of related activities that people do
Object:	The physical things that are present
Goal:	Things people are trying to accomplish
Time:	Sequencing that takes place over time
Feelings:	Emotions felt and expressed

Taken from Spradley, J. P. (1980). *Participant observation.* New York: Holt, Rinehart, and Winston.

Artifact Collection

While accomplishing observations and interviews, the teacher-observer will need to look for artifacts that offer additional evidence of skills, tasks, and context operating in these natural settings. Ask permission from the department manager before removing documents or materials from the worksite.

The following artifacts are potentially helpful in designing authentic projects and investigations: organization charts; employee benefit package; annual reports; employee evaluation forms and procedure; company newsletters; syllabi for training programs;

nonproprietary documentation of productivity; and job aids, reference materials, and procedures used by frontline workers to perform tasks.

Assistance by Mini-Sabbatical Project Team

The mini-sabbatical project staff will monitor each worksite on fieldwork days to answer questions about the application of Job Study procedures. On the evening of Day 1, we will debrief (by telephone) with each teacher about the following day's observation plan and note-taking. We refer questions about the work itself to the worksite and assigned mentor.

Section D: Formal Interview Protocol for Department Head and Trainer

Introduction

My name is _____ and I am involved in a training project for high school teachers assigned to school-to-career programs. The project is located at (Training Site).

The purpose of this interview is for me to better understand work in the _____ department, this company, and the (Industry Name). The interview is entirely voluntary. Answer only the questions you want to answer. Your responses are confidential. I will use them along with work observations to help develop curriculum for high school students.

The interview will take about 20 minutes. I will take notes throughout the interview.

Identification of Informant

Position Title: _____

Length of Tenure at Company/Firm: _____

Tenure in Industry: _____

Tenure in Field: _____

Formal Interview Protocol Questions

1. First, what are your primary job responsibilities?

2. What key issues are at the forefront of the (Name) industry (e.g., quality, efficiency, good government, environmental concerns, and so on)?

2a. Can you point me to reference materials that offer a good discussion of the issues (e.g., definitions, pro and con positions, and case studies)?

3. How is (Name of Company or Firm) coping with the key issues (e.g., improvement programs, restructuring, downsizing, new products and services, and community involvement)?

4. What is the mission of (Name of Company or Firm)?

5. What is the role of this department in light of the firm's mission?

6. I have been observing (Name of Job). For workers recruited as (Name of Job), what specific credentials, skills, or attitudes are considered crucial for solid job performance?

7. Alternatively, what would be "cause" for dismissing someone from this position?

8. The final questions focus on training. What company training does someone working as a (Name of Position) typically receive?

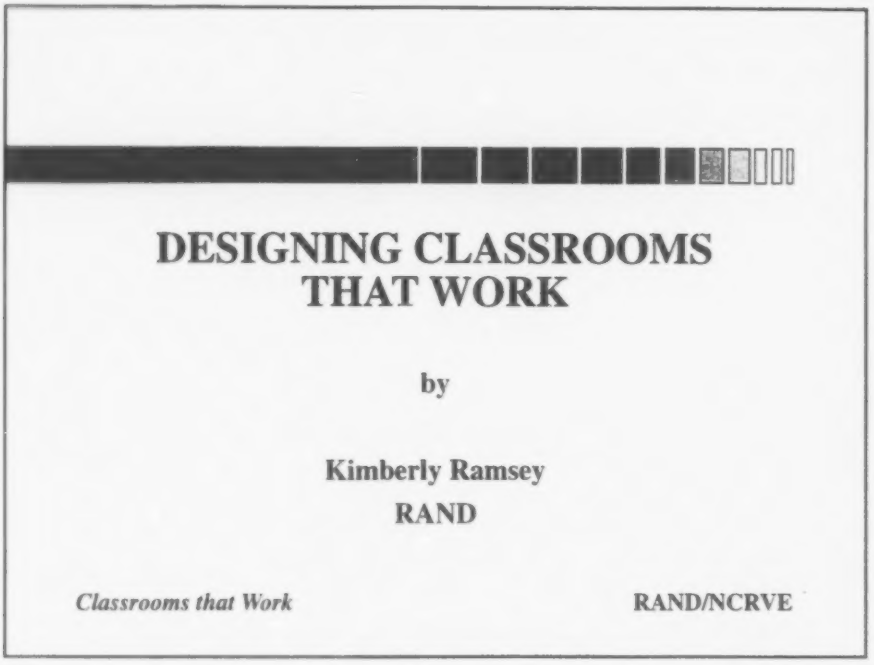
9. What are your training goals?

10. How do you evaluate training?

11. This concludes my questions. Is there anything you want to ask me?

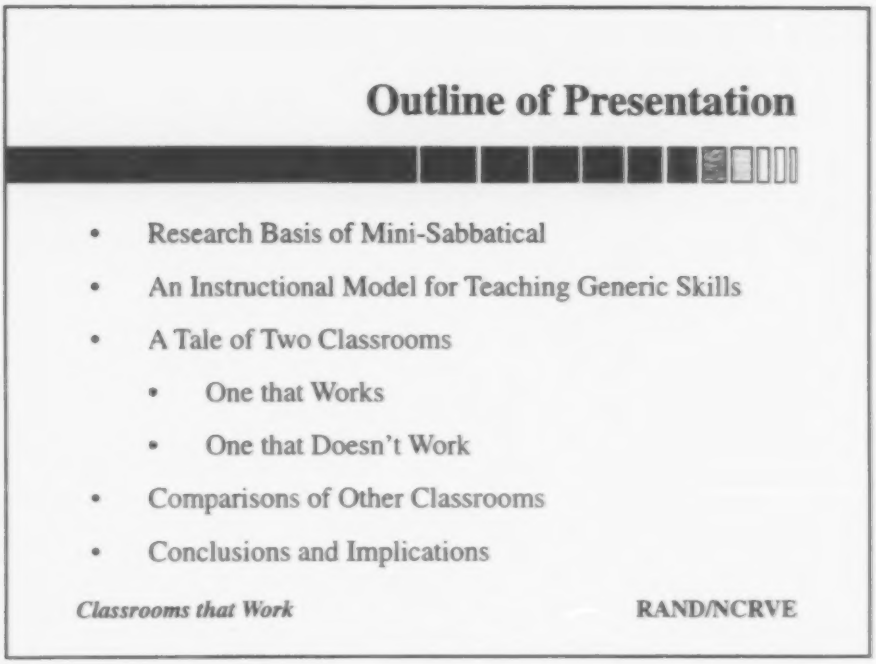
Thank you for allowing me to interview you.

APPENDIX A-4



This briefing presents lessons from several RAND studies on vocational education conducted over the last seven years. RAND has a research program on vocational education and is a site for the National Center for Research in Vocational Education. This work resulted from our attempts to understand ways to improve the general course of vocational education in this country.

The studies concern the teaching and learning of generic skills required for the workplace. The study has implications for both academic and vocational education classrooms.


Outline of Presentation
• Research Basis of Mini-Sabbatical
• An Instructional Model for Teaching Generic Skills
• A Tale of Two Classrooms
• One that Works
• One that Doesn't Work
• Comparisons of Other Classrooms
• Conclusions and Implications
Classrooms that Work
RAND/NCRVE

The presentation begins by discussing how our studies of learning and teaching generic skills influenced development of the mini-sabbatical. We will also introduce the model for teaching generic skills. This model derived from comparing classrooms that work with those that do not. Next we provide a detailed discussion of the classrooms studied. The briefing closes with conclusions and implications.

Motivation for the Research

Growing consensus that global competition and changes in the workplace require fundamental education reform.

School reformers face two questions:

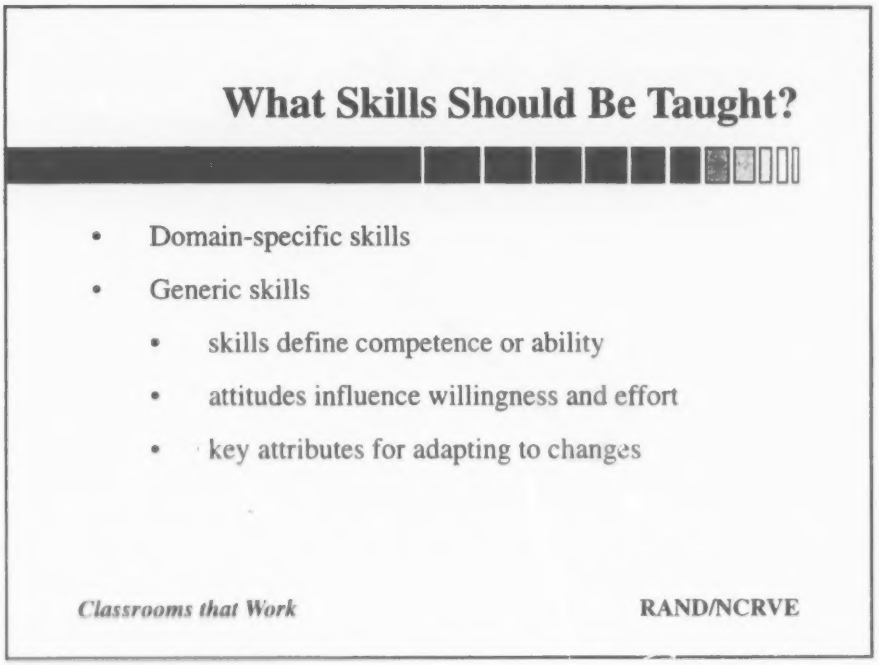
1. What skills should be taught and learned?
2. How should schooling be organized to teach these skills?

Classrooms that Work RAND/NCRVE

So why are workplace skills an important issue for educators? National leaders continue to impress on the American public the notion that the global economy and high technology create new skills requirements. Many contend that American secondary education needs to undergo fundamental changes if it is going to supply the American workplace with a flexible, highly skilled workforce.

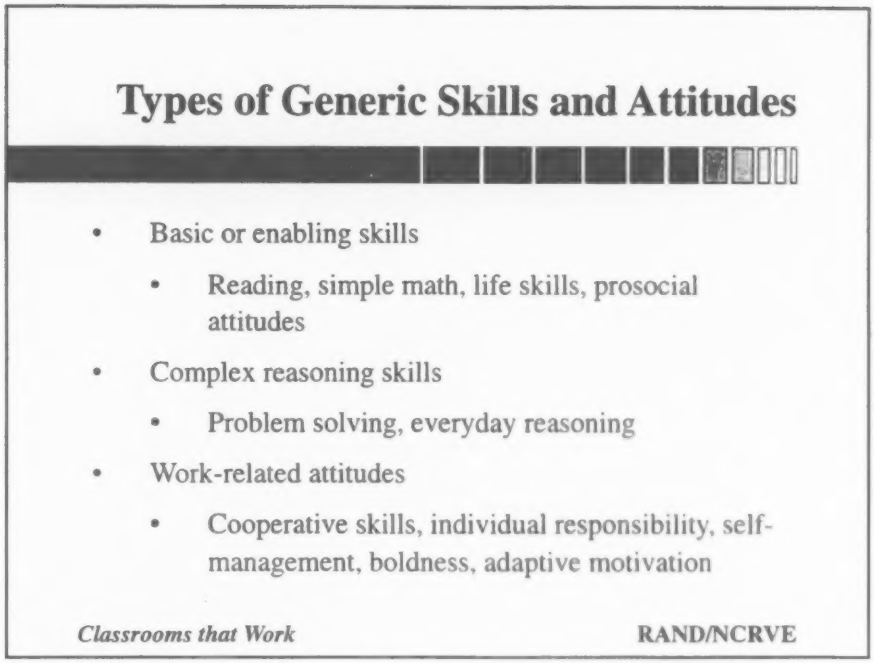
School reformers focus on two questions:

1. What skills should be taught?
2. How do schools need to change to accommodate the teaching and learning of these skills?


What Skills Should Be Taught?
• Domain-specific skills
• Generic skills
• skills define competence or ability
• attitudes influence willingness and effort
• key attributes for adapting to changes
Classrooms that Work
RAND/NCRVE

When we began our first study in 1990, the explosion of workplace and skills studies had not yet occurred. At that time, state economic development commissions and vocational education researchers were discussing something called "generic skills," but the category was vague and there was considerable disagreement on how to define the term.

Our first study looked at classes that purported to teach generic skills and sought to uncover common themes across vocational classrooms. We conducted case study research in a variety of vocational classrooms in a middle school, in a high school, and in postsecondary training centers. Subject areas included interior design, metal shop, aircraft mechanics, and computer applications.


Types of Generic Skills and Attitudes
• Basic or enabling skills
• Reading, simple math, life skills, prosocial attitudes
• Complex reasoning skills
• Problem solving, everyday reasoning
• Work-related attitudes
• Cooperative skills, individual responsibility, self-management, boldness, adaptive motivation
Classrooms that Work
RAND/NCRVE

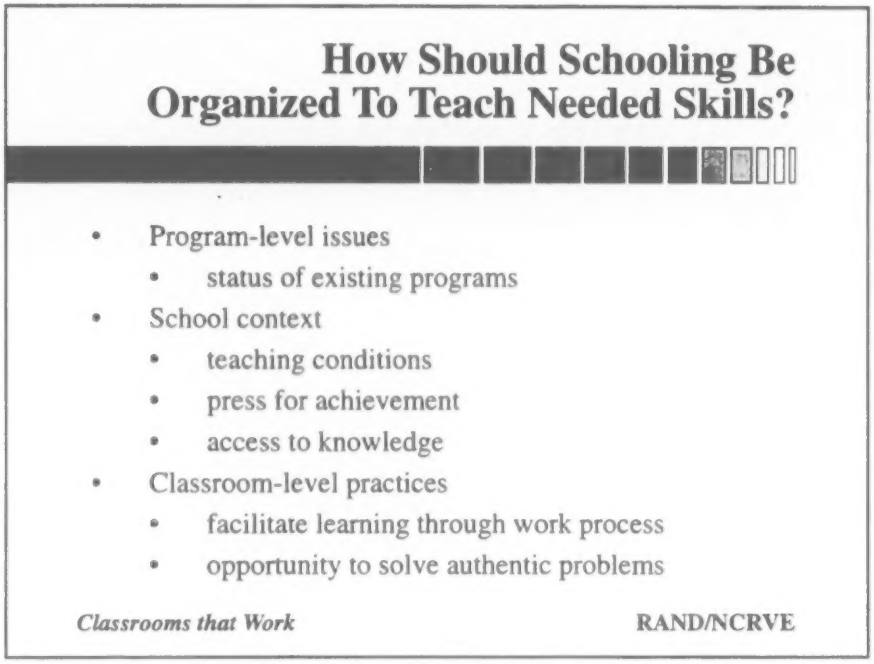
The classrooms we studied offered a simple, complete, and therefore useful taxonomy of generic skills for teachers wishing to focus on teaching these skills.

- Basic or enabling skills can be complex, such as reading, or fairly rudimentary, such as getting to work on time. Basic skills are perhaps worthy of some properly structured presence in the classroom.

- Complex reasoning skills include problem solving and everyday reasoning. Problem solving involves formal reasoning. When information or premises are absent, everyday reasoning involves planning, making commitments, evaluating arguments, and choosing options. Complex reasoning is associated with flexible work arrangements.

- Work-related skills and attitudes are habits of thought that help to marshal efforts such as boldness, adaptive motivation, and persistence. Cooperative skills, individual responsibility, and self-management are also within this category.

The above taxonomy does not address issues of "levels" of skill or precise relationships between skills and attitudes. It seems clear that individuals may not be able to bring their basic and complex skills to bear on a task effectively if they lack attitudes conducive to work. Conversely, a person who is unskilled but bubbling over with positive work attitudes may be a good candidate for education or skill training. However, we would argue that those with only basic skills and prosocial attitudes, although perhaps trainable, will have limited roles in the workplace and limited ability to adapt to workplace change. Complex reasoning skills and work-related attitudes, in particular, appear to be key attributes for adapting to changes in the workplace. These are the attributes that employers value and school reformers hope to impart.

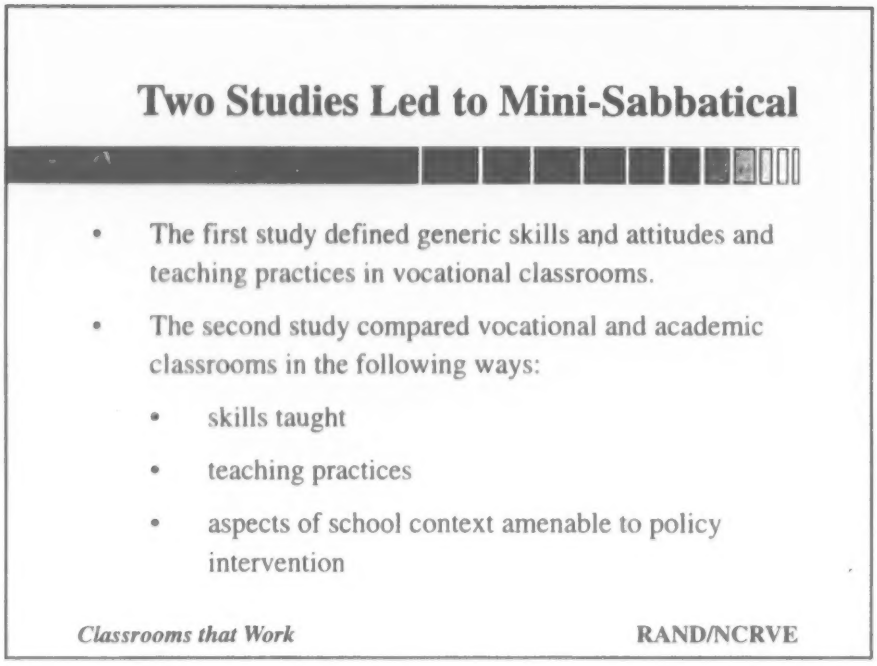

How Should Schooling Be Organized To Teach Needed Skills?
• Program-level issues
• status of existing programs
• School context
• teaching conditions
• press for achievement
• access to knowledge
• Classroom-level practices
• facilitate learning through work process
• opportunity to solve authentic problems
Classrooms that Work
RAND/NCRVE

Answering the "how" question requires consideration of several organizational dimensions for this sort of instruction:

- At the program level, educators face the challenge of how to prepare students for the changing workplace, building on a solid base of existing vocational-technical education programs. For example, cooperative education involves schools and businesses working together to promote learning that extends what is taught in classrooms to paid experiences in the workplace. Such programs depart from traditional academic and vocational education.

- Traditional school practices which reinforce tracking and narrow curriculum for students may not provide comparable opportunities for learning generic skills. It is important to examine school and district policies and practices that affect the following: professional teaching conditions, student achievement, and access to knowledge.

- Specific classroom practices that facilitate learning through the work process is itself an effective method for acquiring work-related knowledge and skills. Similarly, classroom practices that focus on solving authentic problems are yet another effective strategy.


Two Studies Led to Mini-Sabbatical
• The first study defined generic skills and attitudes and teaching practices in vocational classrooms.
• The second study compared vocational and academic classrooms in the following ways:
• skills taught
• teaching practices
• aspects of school context amenable to policy intervention
Classrooms that Work
RAND/NCRVE

The first study focused on defining generic skills and teaching practices in vocational education classrooms. The second study compared vocational and academic classrooms relative to skills taught, teaching practices, and school context. By extending observations into academic classrooms, the study addressed whether generic skills are taught in academic domains and how teacher training and work experience influence the teaching of such skills.

Results of the two studies motivated and influenced development of the mini-sabbatical.

Study of Teaching Generic Skills

Two-year study of teaching in three Los Angeles secondary schools

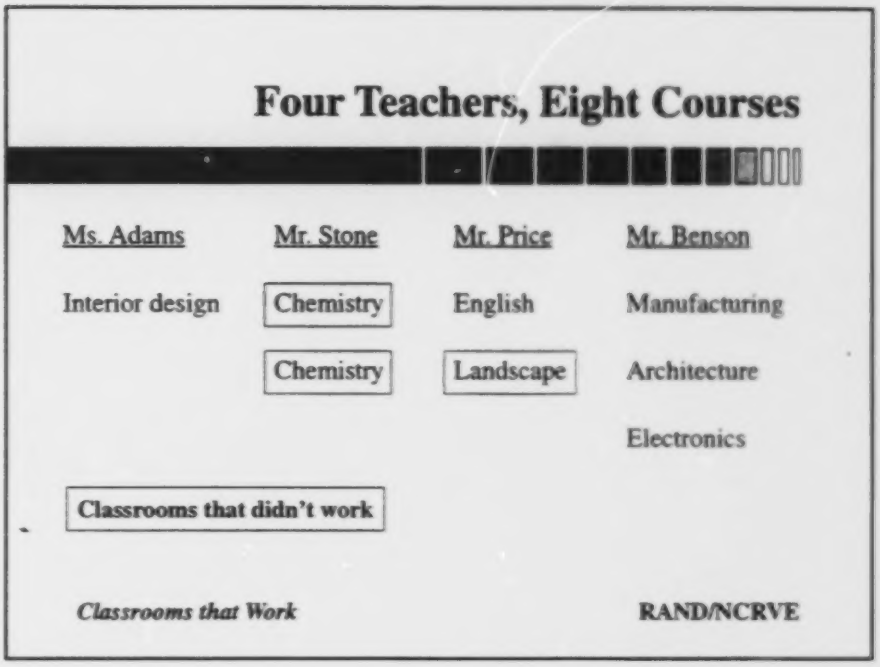
- Case study of eight classrooms and four teachers
- Ethnographic and survey methods
- Five researchers from diverse disciplines

Classrooms that Work RAND/NCRVE

The second study involved case study research in eight classrooms in three Los Angeles school districts. The districts differed in the size and type of populations served. For example, they included a very large district and a medium-size district, with urban, suburban, varied SES, and multi-ethnic demographics. All the schools routinely employed tracking and placed students in college-prep, general studies, and vocational education tracks.

We employed ethnographic and survey methods to deepen our understanding of classroom factors. For six weeks the research team conducted participant observation with student teams, shadowed and interviewed teachers, and collected artifacts. In addition, we surveyed students and conducted focus groups.

Five researchers with diverse backgrounds conducted the field studies and analysis. The disciplinary perspectives of the research team included the following: cognitive science, behavioral science, computer science, policy analysis, adolescent development, worksite research, and education reform.



In selecting candidate classrooms for study, we set the following criteria: classrooms that teach problem solving; value cooperation and responsibility; employ project work; and hold high expectations. Of the twelve candidate classrooms, we selected eight. We rejected two candidate math classes because the curricular structure reinforced traditional teaching practices. In addition, we rejected a science class when district difficulties foiled the teacher's planned innovations. In the final case, the teacher resigned.

Overview of Courses:

Ms. Adams: We studied an interior design course, which is a fine arts elective. This was a classroom of mixed ability, tenth- to twelfth-grade students, who were a mix of college-prep, vocational, and general studies track students. Mainstreaming policies also led to the assignment of LEP and special education students.

Mr. Stone: We studied two tenth-grade science courses in a science- and technology-oriented academy with a mix of student abilities.

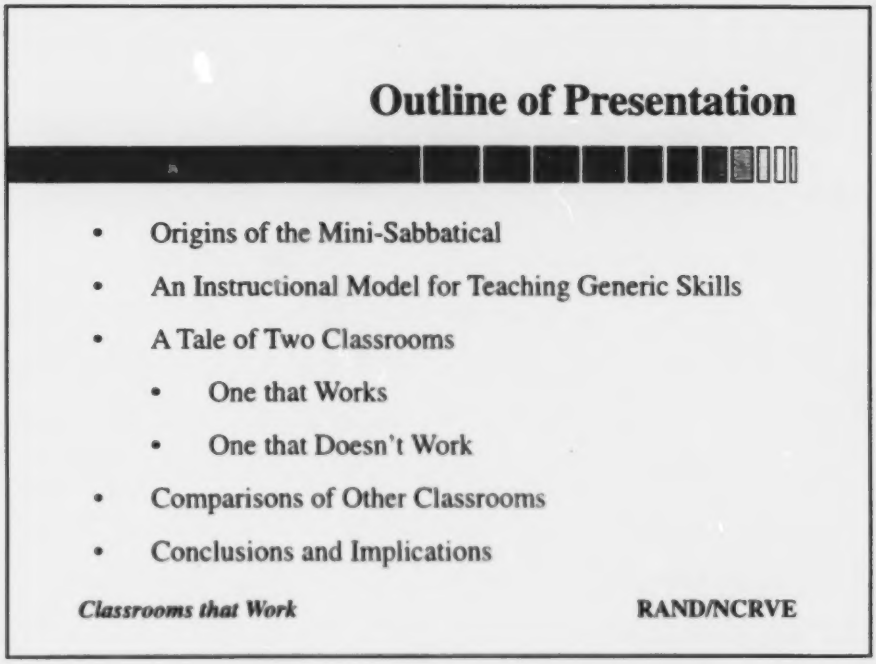
Mr. Price: We studied a landscape course and an advanced English composition course. The landscape course enrolled low-achievement students. The English course enrolled high school seniors.

Mr. Benson: We studied three vocational education courses: manufacturing, architecture, and electronics. The ninth- to twelfth-grade students enrolled represent a mix of abilities and track assignments.

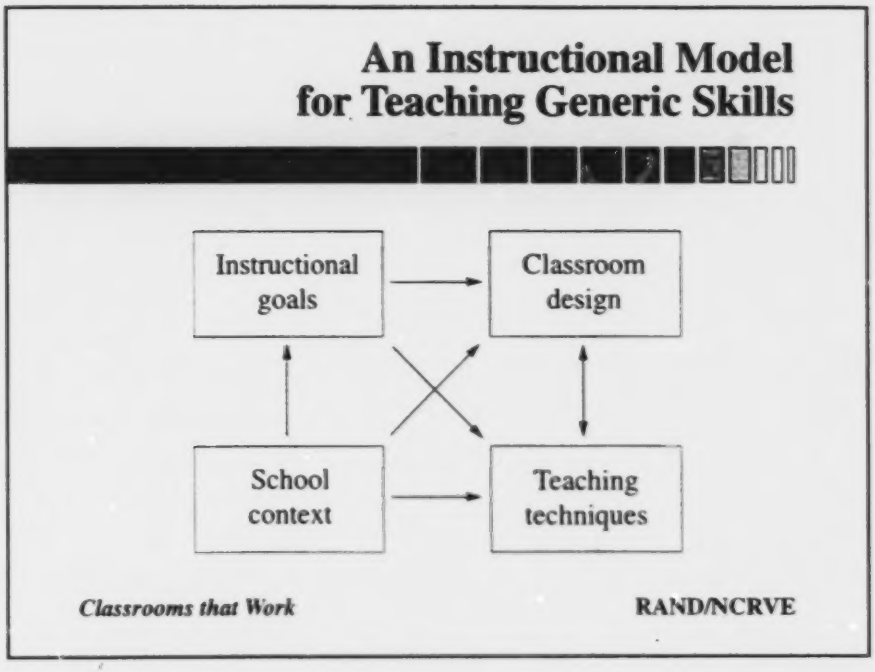
Findings:

In successful classrooms, the focus was on student learning: students were engaged in projects based on high-level generic skills, and the classroom was facilitated by a highly energized teacher.

In the classrooms that did not work, the focus was on teaching: teachers exposed students to a narrow set of skills and expended energy and concern over how to control student behavior, hopefully leading to their engagement.


Outline of Presentation
• Origins of the Mini-Sabbatical
• An Instructional Model for Teaching Generic Skills
• A Tale of Two Classrooms
• One that Works
• One that Doesn't Work
• Comparisons of Other Classrooms
• Conclusions and Implications
Classrooms that Work
RAND/NCRVE

The next section discusses an instructional model for teaching generic skills. Four themes emerged during our analysis of successful classrooms concerning how to design and conduct a classroom that works. Together, the four themes form an instructional model for generic skills.



The four themes of the instructional model for teaching generic skills include the following:

1. Instructional goals
2. Classroom design
3. Teaching techniques
4. School context

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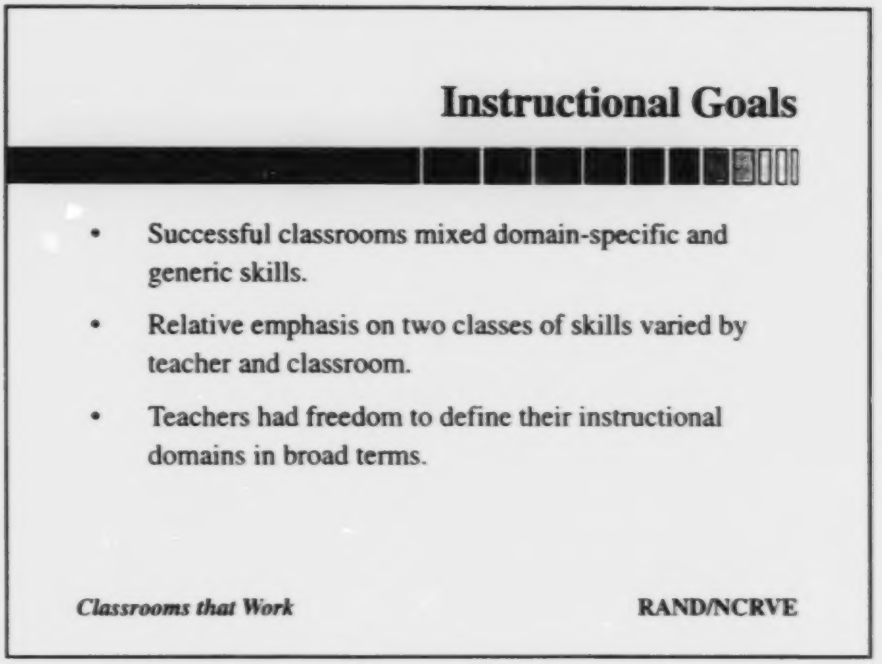
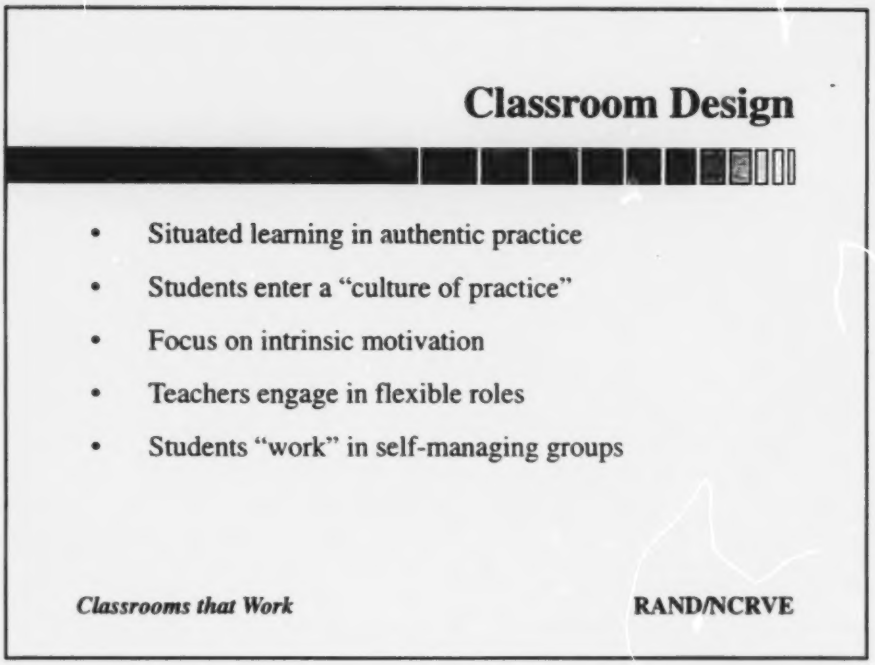
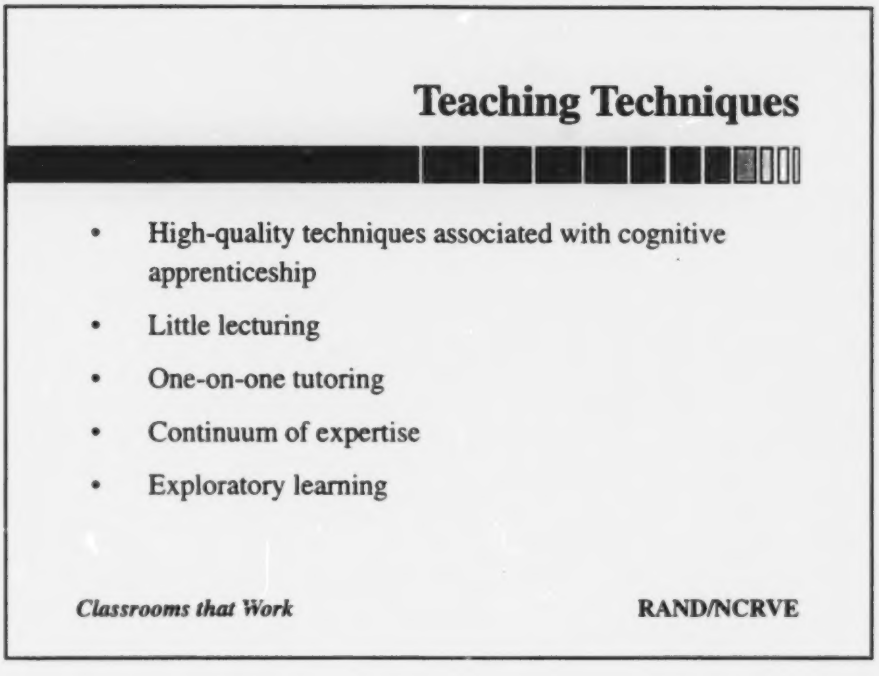

Instructional Goals
• Successful classrooms mixed domain-specific and generic skills.
• Relative emphasis on two classes of skills varied by teacher and classroom.
• Teachers had freedom to define their instructional domains in broad terms.
Classrooms that Work
RAND/NCRVE

In successful classrooms, the instructional goals comprised a mix of domain-specific and generic skills. Teachers acted on their belief that they had the freedom to define their instructional domains broadly, beyond minimal standards tied to curricular frameworks.


Classroom Design
• Situated learning in authentic practice
• Students enter a "culture of practice"
• Focus on intrinsic motivation
• Teachers engage in flexible roles
• Students "work" in self-managing groups
Classrooms that Work
RAND/NCRVE

Successful classrooms are designed around solving authentic problems suggested by expert practice. Authentic problems contain academic and vocational aspects. The integrated content of authentic problems makes them an ideal way to begin classroom design when the goal is to "situate" learning. In this way, academic subjects gain their vocational aspects and vocational subjects integrate academic aspects. Learning "situated" in this manner holds an intrinsic attraction for students.

Implementing new classroom design characteristics implies a different role for teachers. Teachers take on flexible roles using the expert culture as a point of reference. Generally, the teacher acts as a facilitator and has a formal master-apprentice relationship with students.

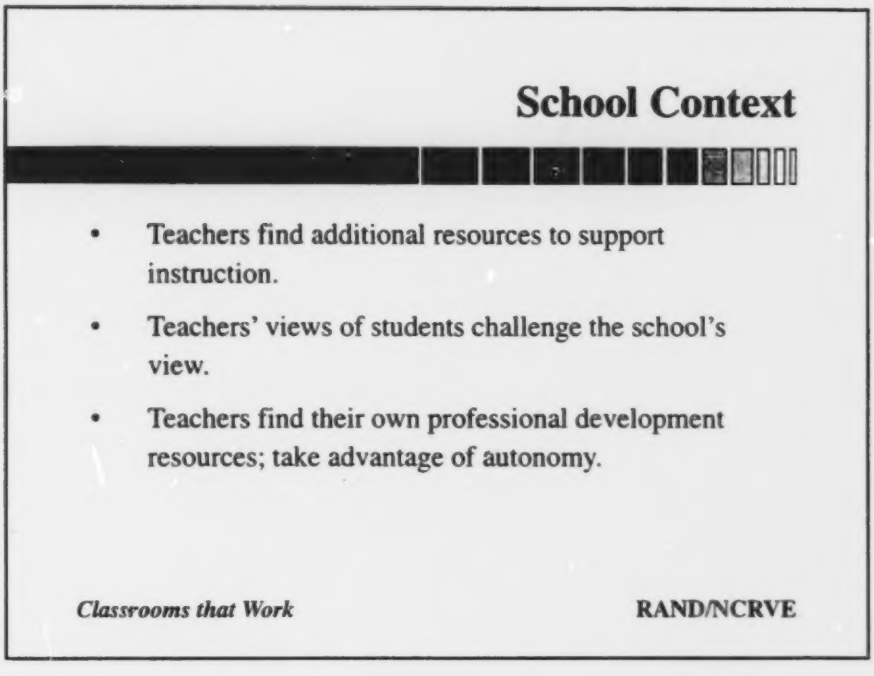


Teaching techniques are instructional behaviors or tactics used to implement instructional goals. In successful classrooms where teachers emphasize student opportunities to learn expert strategies in context, particular teaching techniques flourish. These high-quality techniques associated with cognitive apprenticeship involve both active and passive roles for teachers.

Active teacher role: coaching, scaffolding, and modeling offer guided and supported practice.

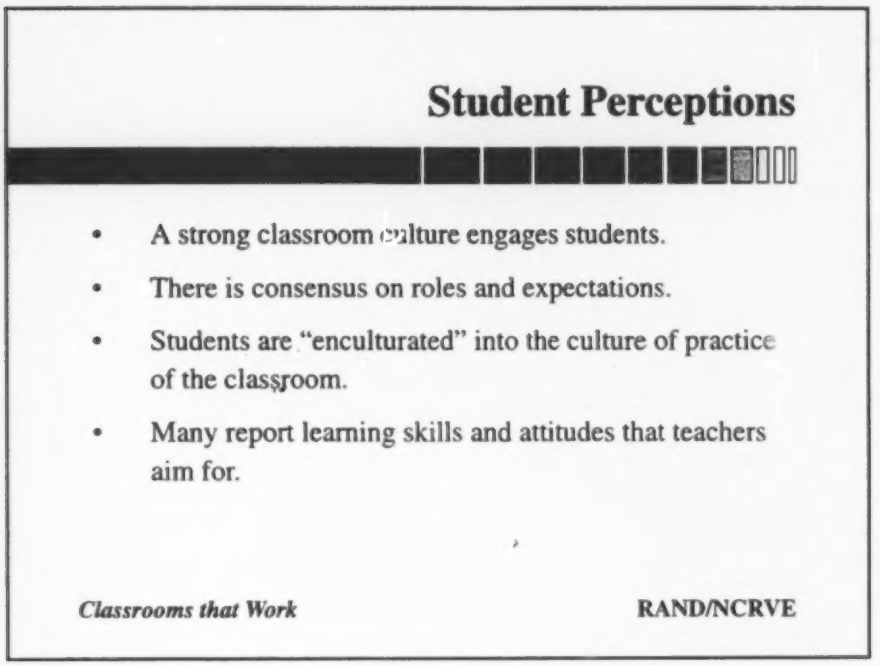
Passive teacher role: articulation and reflection designed to help students take control of their own problem-solving strategies. Fading is deliberately pulling back, allowing students to succeed and/or to risk failure. Students learn to use each other to solve problems and can begin to see the classroom of learners as offering a continuum of expertise, rather than looking for teachers to perform as "sage" or "oracle" to learners.

Exploratory learning is designed to encourage learner autonomy in carrying out problem-solving processes, and in formulating problems to be solved.


School Context
• Teachers find additional resources to support instruction.
• Teachers' views of students challenge the school's view.
• Teachers find their own professional development resources; take advantage of autonomy.
Classrooms that Work
RAND/NCRVE

Teachers and classrooms operate within a particular context, beginning with the school and community environment and expanding to district, state, and federal levels.

We measured school context factors that affect opportunity to learn. These included professional teaching conditions, press for achievement—the performance expectations that teachers and the school communicate to students—and access to knowledge. In successful classrooms, practitioners overcame hurdles to produce classroom designs that worked for students.


Student Perceptions
• A strong classroom culture engages students.
• There is consensus on roles and expectations.
• Students are "enculturated" into the culture of practice of the classroom.
• Many report learning skills and attitudes that teachers aim for.
Classrooms that Work
RAND/NCRVE

In successful classrooms, a strong classroom culture engaged students. With time, students developed an easy consensus on the roles and expectations which led to success in the expert culture. Students becoming "enculturated" into the culture of practice is indicative of learning. With time, students and teachers develop a shared understanding of instructional goals.

Outline of Presentation

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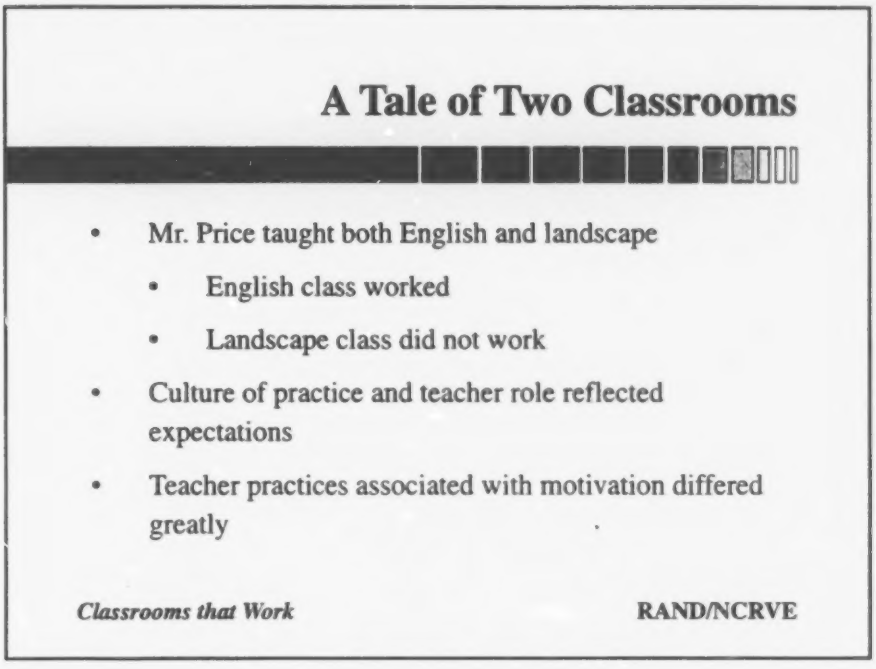
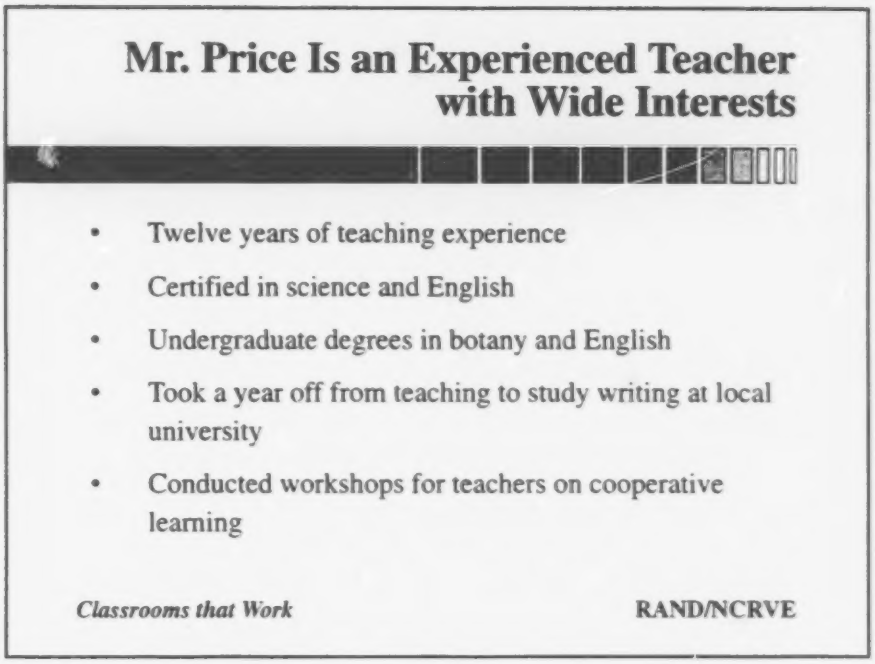
Classrooms that Work RAND/NCRVE

The next part of the briefing compares two classrooms: one that worked and one that did not.

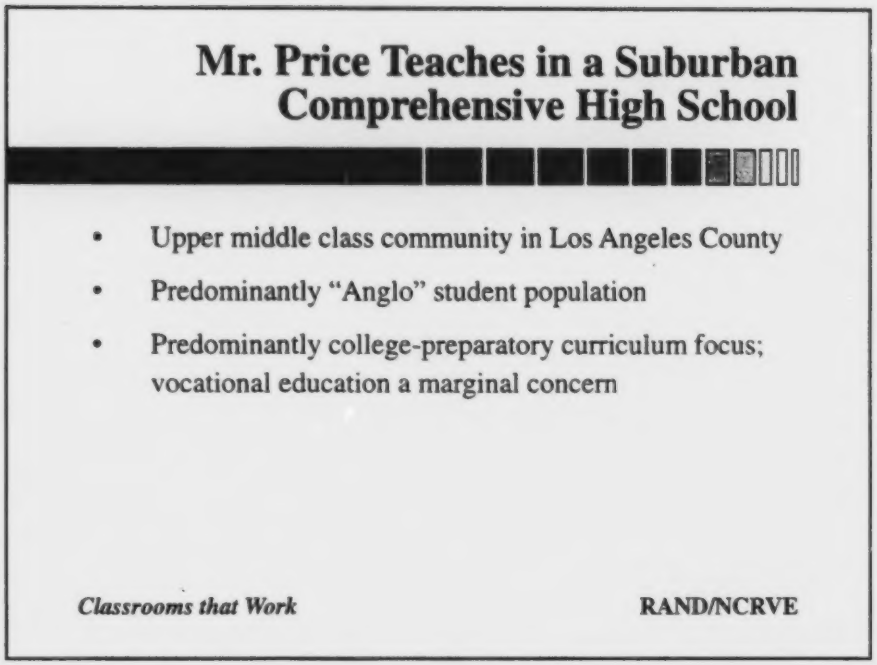

A Tale of Two Classrooms
• Mr. Price taught both English and landscape
• English class worked
• Landscape class did not work
• Culture of practice and teacher role reflected expectations
• Teacher practices associated with motivation differed greatly
Classrooms that Work
RAND/NCRVE

Mr. Price taught two classes—one academic and one vocational. The academic class worked and the vocational class did not work.

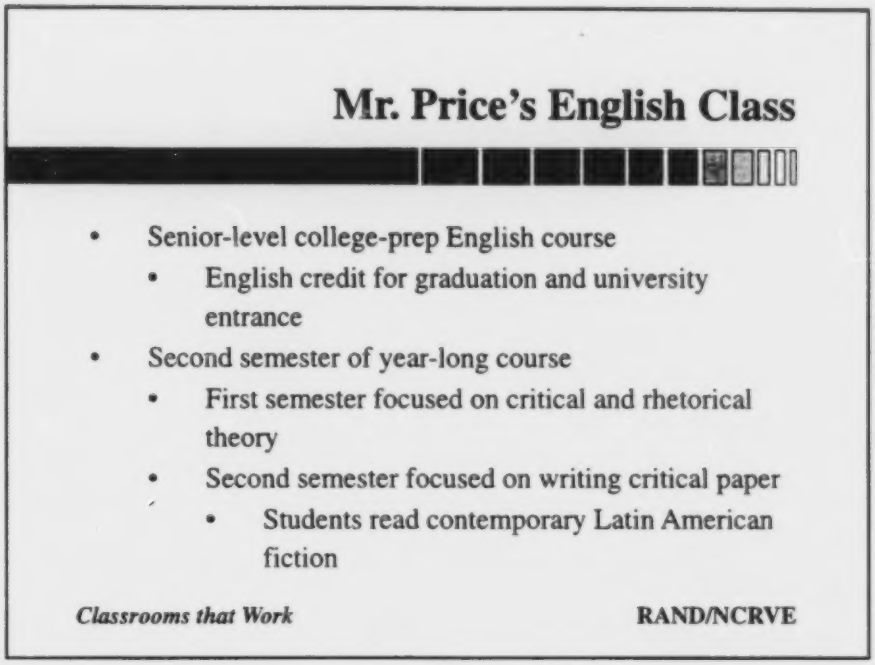
Comparing the two classrooms taught by the same teacher helps to bring in focus the following aspects: successful instructional models and teacher design decisions about the reference culture of practice, authentic problems undertaken, role of the teacher, and practices tied to motivation.


Mr. Price Is an Experienced Teacher with Wide Interests
• Twelve years of teaching experience
• Certified in science and English
• Undergraduate degrees in botany and English
• Took a year off from teaching to study writing at local university
• Conducted workshops for teachers on cooperative learning
Classrooms that Work
RAND/NCRVE

Like many teachers, Mr. Price has multiple credentials. He is involved with his own professional development and that of other teachers.


Mr. Price Teaches in a Suburban Comprehensive High School
• Upper middle class community in Los Angeles County
• Predominantly "Anglo" student population
• Predominantly college-preparatory curriculum focus; vocational education a marginal concern
Classrooms that Work
RAND/NCRVE

Price teaches in a high school serving a white, middle-class community with a growing Asian, Latino, and African-American population. This high school has a reputation for sending its students to college.


Mr. Price's English Class
• Senior-level college-prep English course
• English credit for graduation and university entrance
• Second semester of year-long course
• First semester focused on critical and rhetorical theory
• Second semester focused on writing critical paper
• Students read contemporary Latin American fiction
Classrooms that Work
RAND/NCRVE

We observed Price's English class during what was the students' final semester of school. Because students had already been accepted into college, there was little extrinsic motivation to perform in this class.

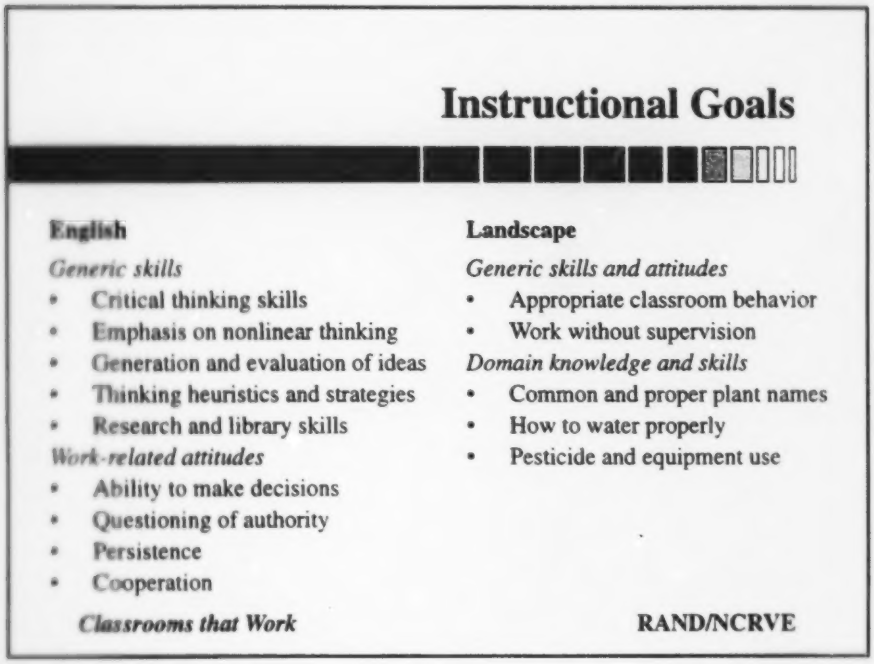
Nevertheless, students worked hard during the class. They read several difficult novels and wrote a critical paper during this final semester.

Mr. Price's Landscape Class

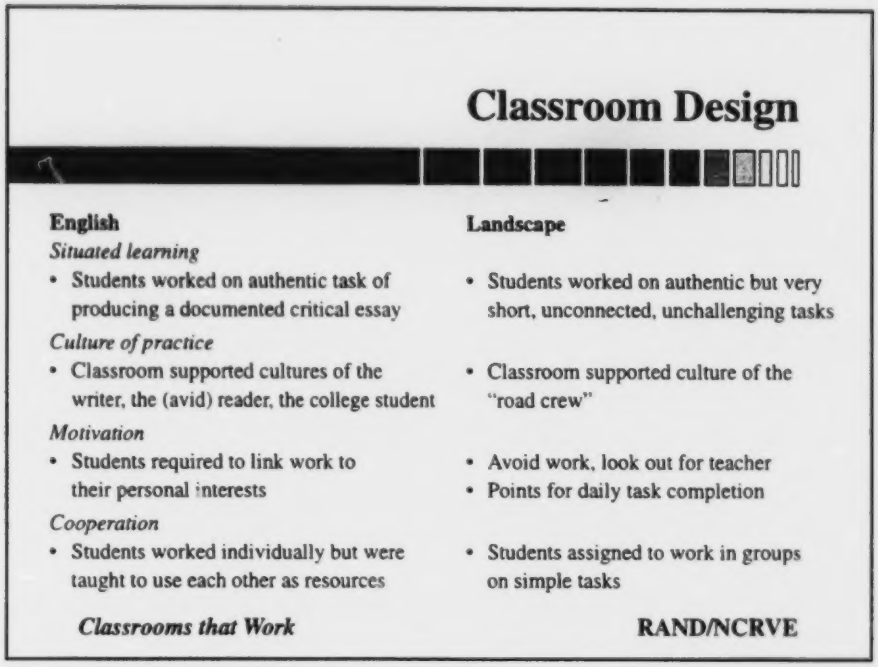
- Elective class under auspices of Regional Occupational Program (ROP)
  - Science credit for graduation only
- Students of mixed gender and grade level
  - Many students with emotional and behavioral problems
  - All in lowest third academically
- Students spent bulk of class time "landscaping" school grounds
  - Some lectures on horticulture

Classrooms that Work **RAND/NCRVE**

Price's vocational class was offered as a "second chance" for students who were not successful in traditional science courses. Students spent most of their time landscaping the school grounds. Students, for example, watered and weeded, pruned roses, helped install a sprinkling system, and grew plants from seed.

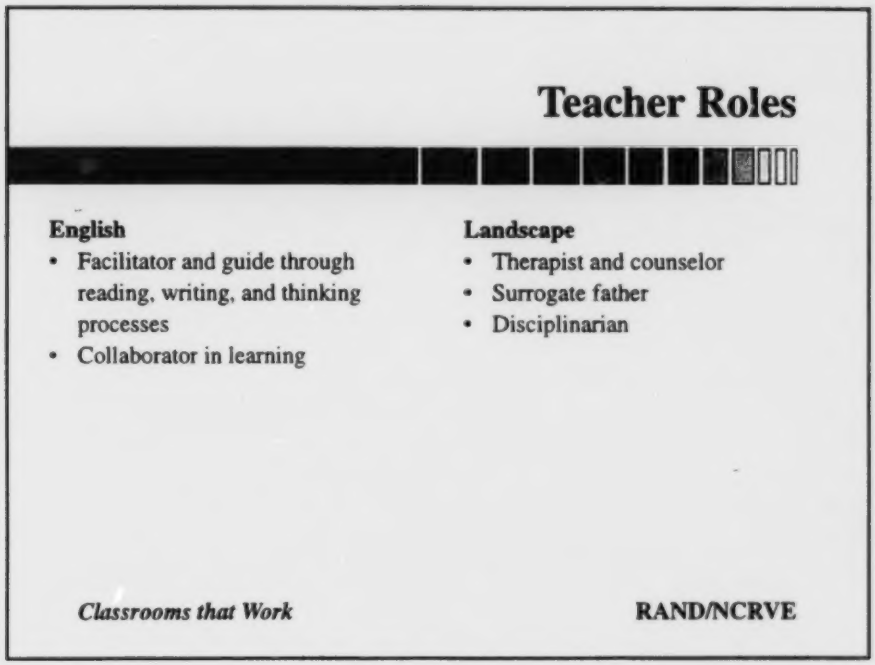


Instructional goals for the English classroom center on complex reasoning skills, skills specific to research, and attitudes that reinforce autonomy as a learner and cooperation with other learners. In contrast, instructional goals for the landscaping course focus on basic prosocial attitudes, specific gardening skills, and knowledge about plants.


Classroom Design
English
Situated learning
• Students worked on authentic task of producing a documented critical essay
Culture of practice
• Classroom supported cultures of the writer, the (avid) reader, the college student
Motivation
• Students required to link work to their personal interests
Cooperation
• Students worked individually but were taught to use each other as resources
Landscape
• Students worked on authentic but very short, unconnected, unchallenging tasks
• Classroom supported culture of the "road crew"
• Avoid work, look out for teacher
• Points for daily task completion
• Students assigned to work in groups on simple tasks
Classrooms that Work
RAND/NCRVE

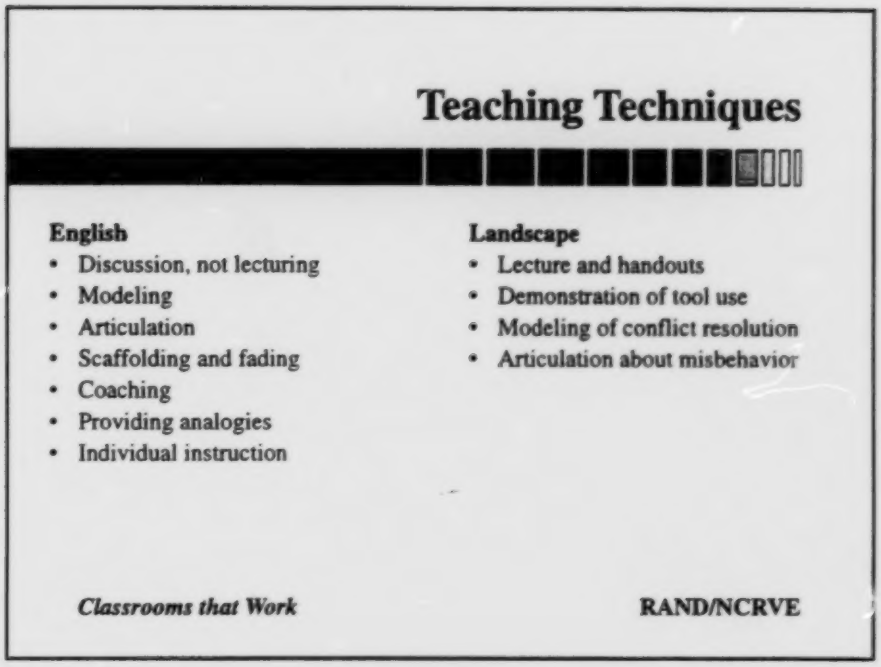
Price drew on his writer's training in designing the English course. As a result, students had an authentic experience with the expert culture of writing on several levels. For example, cooperation skills were based on reading and critiquing each other's drafts.

In contrast, the landscape course was more closely designed to operate the way a "road crew" functions. Students spent much of their time avoiding work. A typical project might be to dig a ditch as a team or water a hill.



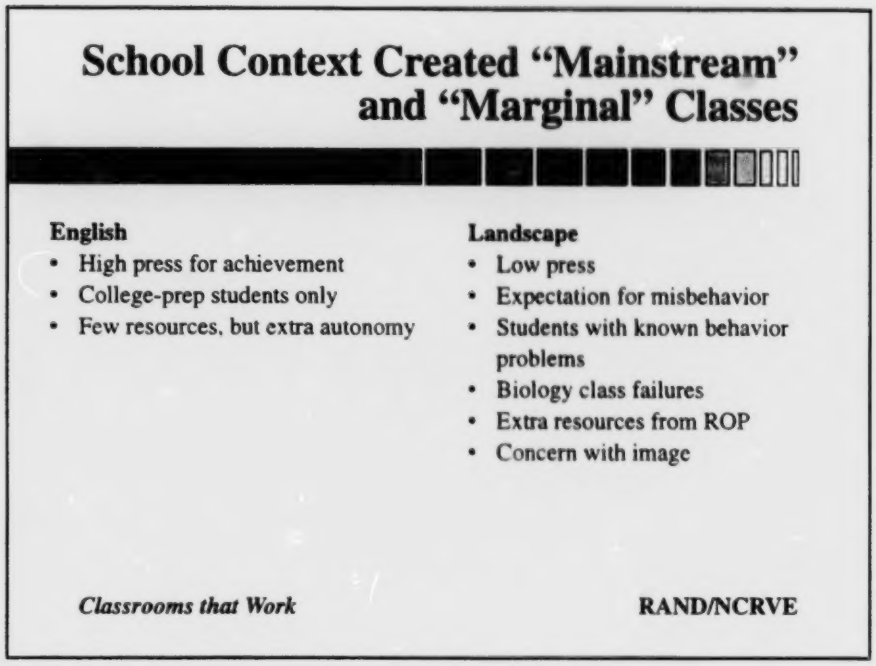
In the English course, Price took the role of "master" to student apprentices. Students said he was their "collaborator" in learning and did not view his interpretation of texts as the "final" call. Rather, he respected and rewarded the independent interpretation of students.

In the landscape class, he took the role of therapist and counselor, in keeping with the instructional goals of prosocial attitudes. Students said he was more a "Dad" or "Uncle," taking surrogate father and disciplinarian roles.



In keeping with the instructional goals, Price employed high-quality teaching techniques in the English classroom. The overall quality of the classroom reinforced exploration on the part of Price and the students.

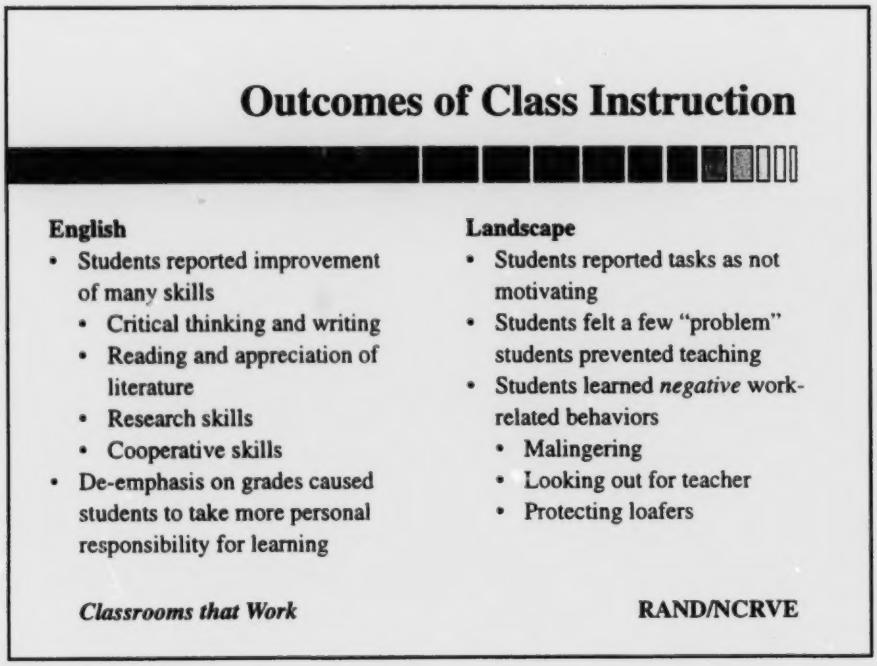
In the landscape class, Price employed a mix of traditional teaching techniques and those associated with cognitive apprenticeship. The overall emphasis on learning basic prosocial skills, however, diluted the learning experience for even the more engaged students. More difficult students would get upset and ask for a paycheck instead of points if he wanted more than they wanted to give. Price and the student could not "win" based on this instructional approach.



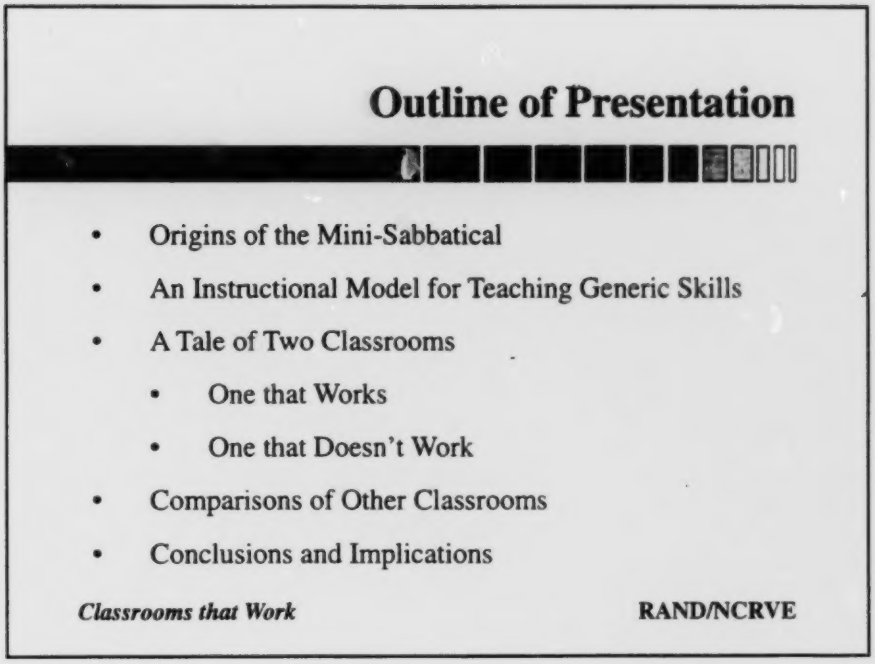
The school context which promotes college preparation and college-bound students contributed to the overall results.

Price had been given the autonomy by the school to design and implement a high-quality English course for college-bound students. He purchased favored books with his own money, but was not constrained by the curriculum framework because the course moved beyond framework standards.

The school was willing to relinquish the teaching of low-achieving and misbehaving students typically assigned to the landscape class. Because Price is vehemently anti-tracking, he took the initiative to accept the students because he believed they would be better off with him than with others.


Outcomes of Class Instruction
English
• Students reported improvement of many skills
• Critical thinking and writing
• Reading and appreciation of literature
• Research skills
• Cooperative skills
• De-emphasis on grades caused students to take more personal responsibility for learning
Landscape
• Students reported tasks as not motivating
• Students felt a few "problem" students prevented teaching
• Students learned negative work-related behaviors
• Malingering
• Looking out for teacher
• Protecting loafers
Classrooms that Work
RAND/NCRVE

Our observations of student learning outcomes were confirmed by students' self-reports, which were obtained from the student survey and focus group discussions.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Classrooms that Work
RAND/NCRVE

In this fourth section of the briefing, we discuss other classrooms and make additional comparisons.

An Academic Classroom that "Didn't Work": Chemistry

- Situated learning weak
- Instructional goals target chemistry facts, vocabulary
- Students work in co-acting pairs
- Teacher played "oracle"
- Bureaucratic "C" and care-taking approach reinforced low expectations

Classrooms that Work RAND/NCRVE

We present another example of an academic classroom—in this case, a chemistry class. In the science classroom, students engaged in "cookbook" labs where partners simply divided the work. The instructional goals centered on narrow, domain-specific skills.

The teacher accepted the role of "oracle," able to answer any conceivable question and depending on lectures as primary teaching technique. A great deal of effort went into the teacher caring for students, including reminding students to turn in homework several times within the class. The minimum "C" average grade requirement arguably set a low ceiling for achievement and persistence. Together, this set of instructional aspects produced a class which did not work.

Landscape and Electronics Classrooms

- Both vocational classrooms
- Electronics blends "expert" culture and school culture; yields hobbyist flavor
- Electronics employs situated learning around projects, and sequences basic and advanced lessons
- Structures classroom to increase intrinsic motivation through interesting technology, project choice, and self-managing groups
- Master to student apprentice

Classrooms that Work **RAND/NCRVE**

The landscape course and the electronics course were both vocational education courses in the same school. Indeed, several students were enrolled in both courses.

In contrast to the landscape course, the electronics class mixed the "expert" culture of technical bench work and school, yielding a hobbyist flavor. Students learned through projects, sequenced to teach basic and advanced lessons. The teacher made available interesting technologies to help motivate exploration. The teacher operated in a "master" to apprentice role. The majority of students were strongly motivated by their classroom experience, with a block of seven or eight students arriving to class as early as 7:00 a.m. to get a 30-minute headstart on their computer and robotics projects.

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Classrooms that Work **RAND/NCRVE**

This final section of the briefing offers conclusions and implications for the mini-sabbatical.

Conclusions

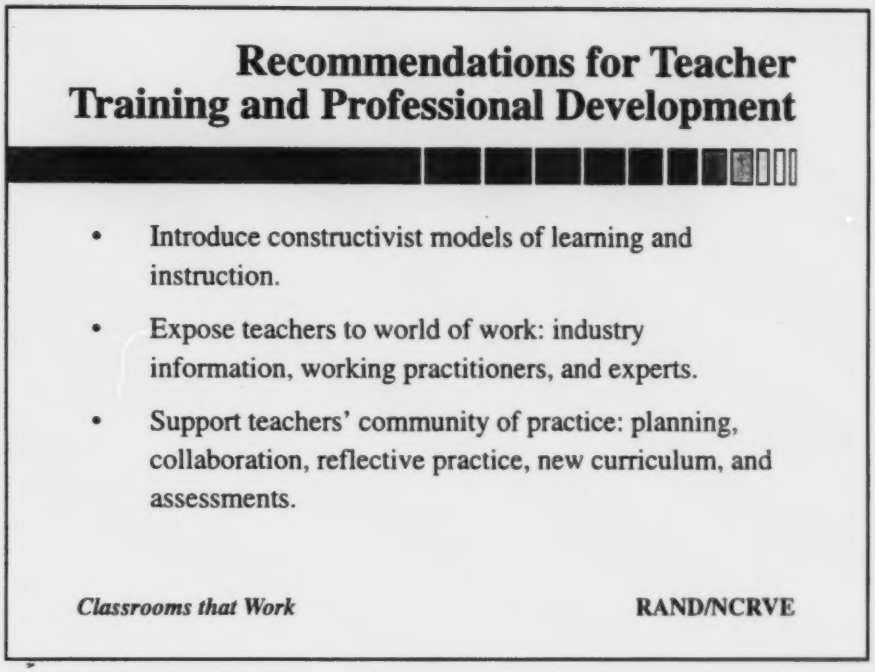
- Generic skills can be taught in vocational and academic classrooms.
- Designing classrooms to provide authentic practice is key.
- Situated learning enhances student learning and engagement.
- Teachers need to hold high expectations for students.

Classrooms that Work **RAND/NCRVE**

Implementing this instructional model requires that teachers determine and attempt to counter school context factors that reduce students' opportunities to learn.

An alternative to traditional content must be sought. The workplace is a good source for finding new and motivating content.

Setting high expectations and holding robust instructional goals are tied to selecting an appropriate reference culture. The reference culture may form the basis of authentic problems, sequencing lessons, and the role adopted by the teachers.


Recommendations for Teacher Training and Professional Development
• Introduce constructivist models of learning and instruction.
• Expose teachers to world of work: industry information, working practitioners, and experts.
• Support teachers' community of practice: planning, collaboration, reflective practice, new curriculum, and assessments.
Classrooms that Work
RAND/NCRVE

The classroom studies suggest that alternative professional development approaches are needed to help teachers redesign their instructional efforts to support learning and teaching generic skills. At the very least, teachers will be assisted by their exposure to the world of work, using new knowledge to design classrooms. Teachers also require assistance developing new skills in planning, collaboration, reflective practice, curriculum development, and assessment. Not only are new skills required, old skills must be reviewed and either integrated or unlearned in the context of implementing constructivist learning models.

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APPENDIX A-5
THE RANGE OF ASSESSMENT STRATEGIES

Brian Stecher, RAND

During the past few years, concerns about the U.S. economy have prompted heated debates about vocational education and employment training programs. Experts have called for a variety of reforms as a result: changes in curriculum content, in teaching methods, and in methods of assessment. Reports on the inadequate skills of high school graduates, the rapidly changing demands of many employers, and the declining competitiveness of U.S. firms in the international marketplace have also stimulated a variety of proposals to change the organization and structure of employment preparation programs. Despite different approaches to reform, all sides seem to agree on the need for valid, reliable, and affordable methods for assessing students' skills.

This section is designed to help you choose the best assessment method(s) for your particular needs, by moving through the following steps:

- Clearly defining the **purpose** of the assessment
- Determining the **knowledge and skills** you want to measure
- Selecting **assessment strategies** that best measure those skills and knowledge
- Checking the **quality** of the strategies to be implemented
- Making sure each strategy is **feasible** to implement

Different types of assessment strategies are used for different purposes; your purposes should determine how you measure knowledge and skills.

For example:

- When you want to test a student's knowledge of history or mathematical facts, a paper-and-pencil test may be the most appropriate.

- When you want to assess a student's ability to think and solve problems as a member of a team, a performance event such as a group-led experiment or problem-solving exercise would probably be a more fitting assessment strategy.

- When you want to assess the quality of a student's work over time, and progress made, a portfolio may be the most valuable method.

One form of assessment is not necessarily better than another in all contexts. Rather, one form might be more appropriate than another, depending on your purpose, the knowledge and skills to be assessed, and quality and feasibility considerations.

The Purposes of the Assessment

Measuring Individual Student Learning

Assessments designed to measure student learning in a course or program often become an integral component of the curriculum. Assessments with this purpose can be administered on-demand: they can be given often and graded quickly, and performance can be assessed cumulatively over longer periods of time.

Many teachers use assessments to measure individual student learning and progress. Some traditional strategies for this purpose include pop quizzes, end-of-chapter exams, and in-class essay exams. Alternative forms include portfolios, oral presentations, and senior projects. Assessments with this purpose can provide a teacher with insight into students' academic and technical progress and, if used over time, an impression of students' cognitive development as well. Assessments designed to measure student learning can also provide teachers with information about which instructional approaches work best, and where changes need to be made or additional attention focused.

Certification of Individual Students

An assessment used to certify student mastery of occupationally oriented material provides an effective means of signaling to employers that a student has a particular set of skills and knowledge. Since students generally seek employment (or a higher-level job) in an occupational area after being certified, employers frequently give input into the design and implementation of the system. In a true employee certification system, employers

require certification for hiring and career advancement. In some industries, such as health, students cannot apply for particular jobs without the certification.

Assessments used to certify students may document general abilities or accumulated knowledge (e.g., tests for college admission) or specific ones (e.g., tests for professional licensing). Individuals who pass tests of specific, job-oriented skills often receive a certificate that can be used statewide, or even nationally.

Program Performance Information

Assessment is also used to provide information on the quality of the programs, schools, and districts that are providing education and training. This information may be used for monitoring progress in making program improvements, maintaining quality, making comparisons across different programs, or holding administrators of programs accountable. Trend data for programs, schools, or districts can also be used to monitor the performance of these entities over time.

Assessments used to provide program performance information often aggregate scores from individual performances to describe the achievement of particular groups (e.g., a graduating class or a whole school, or males and females separately). Assessments with this purpose are often administered infrequently, for example, annually or even less often.

Individual Exercise

Directions: List assessments that are used for one (or more) of the above purposes in your district or school, along with the purposes. What problems do you think you might encounter by attempting to accomplish more than one purpose with the same assessment?

Types of Assessment

Written Assessment

Multiple-Choice and Open-Ended Written Items

This type of test is highly efficient for testing a student's knowledge of specific facts or skills and includes multiple-choice, true–false, or fill-in-the-blank questions. There are a limited number of predetermined "right" answers (sometimes only one); the student selects or produces a limited response to a stimulus or prompt. Open-ended questions are distinguished from the others in this category by the student having to generate a response rather than choosing from among ones presented. It costs less (in time and funds) to develop and administer a multiple-choice or open-ended item test than other forms of assessment.

Essays and Problem- or Scenario-Based Items

These three types of written assessment require students to demonstrate their knowledge of a topic in writing, including a short answer or explanation or a long essay response. The stimulus can be printed material but it can also be an object, an event, or an experience. Written assessments include essays in response to a question, and problem- or scenario-based responses. This type of question may challenge students to think about issues and problems related to the industry that they are studying and often challenges students to integrate their knowledge of several disciplines. Usually scoring is more complex and time-consuming than for multiple-choice or open-ended assessments.

Performance Task

This type of assessment may consist of one or a set of multiple physical tasks such as changing the oil in a car engine or drafting a floor plan for a building. Performance tasks can be designed to test a student's specific abilities in a skill area, or his or her decision-making or problem-solving skills, or some combination of this type of skill. Performance tasks can be structured with one evaluator using a checklist of items and scoring criteria or by dividing observation among several different evaluators using a common scoring rubric.

Senior Project

Senior projects include at least three discrete activities to measure a student's achievement over the course of the senior year of high school (though the concept can be adapted for a different year or time period): (1) a research paper, (2) a project (the product is usually not written and is often an artifact of some kind: a videotape, a performance, or a physical model, for example), and (3) an oral presentation. Each component has its own criteria for evaluation. Evaluators are trained to properly assess a student's senior project. The time and cost required to evaluate senior projects is relatively higher than when a single written assessment or performance task is used.

Portfolio

A portfolio is a collection of student work covering multiple outcomes and activities. It is usually implemented with a focus on one of three purposes: (1) to improve curriculum and instruction, (2) to help students get jobs and to improve employability skills, or (3) to challenge students to take an active role in setting and meeting goals and in shaping their own tasks. The portfolio might represent work samples collected over one or more years. In some instances, a portfolio might include results from a standardized test or another written assessment instrument.

Individual/Group Exercise

Directions: Read the following scenarios and answer the questions that follow:

(1) The assistant superintendent in Greenwood School District is asked to design a program improvement system for the district. The performance of each school not only will be reported to the community, but will also be used to award bonuses to teachers at the best schools.

What types of assessments would you use? Why?

(2) Within a particular state, biotechnology firms are interested in hiring large numbers of skilled workers over the next few years. A group of CEOs contacts the community college system to design a certification system for two job categories that require an associate's degree.

What types of assessments would you recommend? Why?

(3) Teachers at Lifton High School have been disappointed in the scores of their juniors and seniors on statewide standardized tests. They don't think the scores adequately reflect students' achievement or abilities. These same teachers are also aware that many students are disengaged from the high school curriculum by junior year, which may be contributing to declining scores and low attendance rates. These teachers would like to design assessment strategies that both engage the students and help demonstrate their achievement.

What types of assessments would you recommend? Why?

Quality

To ensure that an assessment strategy will provide accurate information, the technical quality of the measures should be considered. Three aspects of assessment quality are of special concern:

1. Reliability: How accurate is the information?

2. Validity: Does the assessment measure what it is intended to measure?

3. Fairness: Is the assessment free of biases against any group of students?

Reliability

There are no perfect measuring tools, either in science, in the kitchen, or in education, so people who use tools to measure things need to know how much error there is likely to be in the information they receive. When we talk about the reliability of an assessment measure we mean to what degree the score on the measure (or on the test as a whole) is accurate. If, for example, a student took the same test again, would she or he get the same score? If students took a comparable test would a similar result be obtained?

On commercial tests, the reliability is usually around .80, which is considered high. This means that 80% of the test score reflects "true" performance and 20% reflects measurement error. High reliability comes partly from the fact that commercial tests obtain lots of separate bits of information about what students know; for example, students might answer 30 multiple-choice questions per half-hour.

Achieving high reliability with alternative assessment methods is more difficult. The usually longer and more complex responses supply fewer pieces of information about performance. Example: A teacher evaluating a portfolio is likely to review only a handful of student products, giving limited evidence. Moreover, judgment is required for scoring, inevitably bringing in a certain amount of subjective opinion. Subjective judgments may be reflected in inconsistencies between raters. Interrater reliability asks, Would two raters score the assessment the same way? Would the same rater, repeating the scoring session at a different time, score the assessment the same?

In selecting an assessment measure, we need to consider whether it would give the same result if repeated, how well its scores correlate with those of other assessments measuring comparable knowledge, and consistency across raters.

Validity

The validity of an assessment tells us whether it is measuring what we think it's measuring. If we want to know how well a student can write, a multiple-choice test of spelling and grammar may not be a valid indicator or how successfully he can write an essay himself, though it may indicate how well he can identify errors of this type in text.

There are several ways to establish or measure a test's validity. A panel of experts in the field can review the contents of the measure; performance on the test measure can be compared with actual performance on similar tasks in, for example, a work setting; or we can study the pattern of responses among several tasks measuring the same thing.

One of the primary motivations for adopting alternative assessments is to increase validity by making the assessment tasks more like the real-world activities the tests are designed to simulate. Because alternative assessments pose more "authentic" tasks, it is hoped that the assessment scores will more accurately reflect students' ability and knowledge in a given area.

One problem with interpreting the results of some types of alternative assessments, such as senior projects or portfolios, is that they are inherently nonstandardized. The content of each individual's submissions will be different, and the resources available to the student may vary. It is difficult to assign scores fairly to such

different products, including taking into consideration factors like access to resources (such as computers or access to experts).

Fairness

If students who otherwise have equal ability score differently on an assessment because of background knowledge or experience that is irrelevant to the assessed skill/knowledge, then the measure is unfair or "biased." Example: A task that assumes the student is familiar with different snow conditions may be biased against students who live in a climate where it never snows.

The fairness of an assessment is usually established by expert committees trained to analyze factors that might disadvantage or benefit particular groups of students. Many advocates believe that alternative assessments are more equitable to all groups because they assign more complete tasks and permit students to address the tasks in ways that are meaningful to them. However, all vocational educators selecting and constructing assessments need to be sensitive to the diverse backgrounds of their students.

Individual/Group Exercise

Directions: By yourself or in a group, answer the following questions:

(1) Think of a test being used in your state or school but not in your classroom. What do you know about its reliability, validity, and fairness? What would you have to do to find out?

(2) Think of a test being used in your classroom. What do you know about its reliability, validity, and fairness? What would you have to do to find out?

Feasibility

Practical issues of cost and time required to administer and score, complexity, and acceptability are legitimate concerns in selecting from among alternative assessments. It should come as no surprise that selected-response tests are the most efficient users of time and budgets.

Cost

In general, alternative assessments are more expensive to develop, administer, and score than selected-response tests. Scoring is the greatest added expense of using alternative assessments. Multiple-choice tests can be scored quickly for only pennies per student. Because of their complexity, alternative assessments are time-consuming to score. Essays, for example, can cost several dollars per student to score. Often there are additional costs in training the people who will do the scoring.

Offsetting the additional costs of alternative assessments may be two benefits: (1) substantial staff development and (2) greater test validity. Teachers report that scoring alternative assessments improves their understanding of student learning, including their misconceptions and problems, and it is useful for instructional planning. Alternative assessments are also likely to provide more valid information about students' abilities to perform occupationally relevant tasks.

Time

Alternative assessments place greater time demands on administrators, teachers, and students. Alternative assessments frequently require more class time to administer (which may cut into instructional time), and certainly require more time for scoring, which may reduce teacher planning time. On the positive side, teachers learn more about student performance by scoring this type of task. Moreover, when assessments are closely linked to classroom instructional activities, such as senior projects and portfolios, the distinction between assessment time and learning time is blurred, and the time problem may be less troublesome.

Complexity

Alternative assessments are usually more complex than traditional tests. Students respond to more complicated test questions or situations that may be covering a broad range of course content; the method students use for responding is more elaborate; students may use manipulatives and may produce objects/artifacts in response to tasks; higher-order thinking skills are often required; and the scoring procedures are more complicated.

Making the arrangements to conduct an alternative assessment is also more complicated than passing out pencils and paper for a multiple-choice test. Training may be necessary to learn to administer or score alternative assessments (and sometimes to develop them as well), and additional equipment and facilities may be needed.

Acceptability

People familiar with traditional types of tests may be reluctant to implement alternative assessments or to accept alternative assessment results as credible. If the measures fail to meet reasonable technical standards or to address accepted curricular material, they may in fact be less credible. On the other hand, one of the advantages of alternative assessments is that employers and other stakeholders may give greater credibility to scores based on authentic performance tasks than to traditional test results.

Exercise

Directions: Using the tests you thought of in the last section, answer the following questions:

(1) What do you know about the cost, complexity, and acceptability of the test used in your state or school?

(2) What do you know about the cost, complexity, and acceptability of the test used in your classroom?

APPENDIX B-1
DATA COLLECTION FORMS AND SURVEYS

Mini-Sabbatical Teacher Pre-Course Survey

Mini-Sabbatical Summer School Student Pre-Course Survey

Student Checklist Report

Curriculum Template: Instructional Design

Curriculum Revision Log – Baseline

Curriculum Revision Log – Daily Form

Teachers' Cumulative Evaluation of Mini-Sabbatical

MINI-SABBATICAL TEACHER PRE-COURSE SURVEY

Name: _____ Date: _____

School: _____ Grade(s) taught: _____

A. PERSONAL BACKGROUND

1. Position(s) held, other than teaching (include dates):

_____

_____

_____

2. Subjects and dates taught:

Subject	*Dates taught* (e.g., 1989-1996)
_____	_____
_____	_____
_____	_____
_____	_____

3. Your current teaching assignment (subjects, grade level, and number of sections):

_____

_____

_____

4. Degrees held: ( ) BA/BS in _____

( ) Master's in _____

( ) Other (please specify degree and content area):

_____

5. Credentialled to teach:

_____

6. Professional organizations, including union affiliations:

_____

_____

_____

7. Briefly describe your current professional development goals, and how they relate to your participation in the mini-sabbatical program.

_____

_____

_____

B. PERSONAL TEACHING BACKGROUND

How often do you . . .	Several times a semester	Once or twice a year	Rarely or never
8. have students choose the topic of their assignments?			
9. have students decide how they will accomplish an assignment?			
10. have students find the information and other resources necessary for completing an assignment?			
11. assign a project which will require more than one week for your students to complete?			
12. give an assignment where a student's grade depends on group, not individual, performance?			
13. give explicit instruction in group-work skills?			
14. collaborate with another teacher in your subject area to plan curriculum?			
15. collaborate with a teacher in a different subject area to plan curriculum?			
16. involve businesspeople, workers, or community leaders from outside school in your classes (either by inviting them into your classroom or by having students visit them)?			
17. require that students use information and resources from outside school to complete an assignment?			

18. For the subject area that you consider your primary teaching responsibility, please give a succinct statement of your teaching goals.

_____

_____

_____

19. A recurrent topic of debate in the educational field is the extent to which teachers can and should attempt to promote a constructivist approach to learning: that is, to what extent students should be expected to "construct" and discover their understanding of subject matter, as opposed to merely assimilating concepts presented to them by their teacher.

Where do you place yourself in this debate? How do the decisions you have made about curriculum over the years reflect your views? Please answer with as much reference to actual experiences as possible!

_____

_____

_____

C. CURRICULUM UNIT WORK SAMPLE

Please submit a curriculum unit (for example, a project or independent study unit) that you have taught and which motivated students' efforts. Respond briefly to the questions below.

Name of Curriculum Unit _____

20. What is the source of the curriculum unit (e.g., provided by outside experts, teacher-developed [personally or by another teacher], and so on)?

_____

_____

_____

21. At what age or grade-level is it suited?

_____

_____

_____

22. It is targeted at an ability level or suited to all levels?

_____

_____

_____

23. Does it involve a single subject or is it interdisciplinary? Specify subject(s)?

_____

_____

_____

Development

24. What are the instructional goals for this unit?

_____

_____

_____

25. How was this particular unit selected for inclusion in the course (e.g., corresponds to standards, corresponds to state frameworks, personal selection, advice from business, or advice from parents/community)?

_____

_____

_____

26. Any training or coaching that aided its development?

27. Any student input? If yes, what?

28. Resources used to develop/write (e.g., experts, texts, computer, and so on)?

29. Estimate the time required to develop.

30. Any difficulties due to lack of time/knowledge/coaching?

31. Did anyone approve the unit before you taught it the first time?

32. Was the approval procedure established, new, formal, informal? Did it involve peer review, expert review, community notification/review?

Classroom Delivery

33. How is it presented in classroom (e.g., lecture, project, investigation)?

34. Did you teach it only in the classroom or elsewhere?

35. What amount of time did students require to complete the unit?

36. How is it configured (e.g., one hour daily for two weeks, three two-hour blocks weekly for five weeks, and so on)?

37. Methods used (e.g., cooperative partners, group assignment, individual work, independent study with mentor oversight, family assignment, and so on)?

38. Assessments used? (attach if available)

39. Have you experienced particular difficulties teaching it?

40. Have students experienced particular problems learning it?

41. If you were to offer hints about ways to teach this unit, what would they be?

42. What outcomes result from students learning this unit?

43. Other than the above assessment(s), how are these outcomes measured?

44. Any parent comments about this unit?

45. Aspects of the unit that should aid students when they become employed?

Dissemination

46. Have you shared this curriculum unit with others (e.g., teachers at the school, within the district, college partners, colleagues within a professional network)?

47. What was the result of your sharing the unit (e.g., improvements suggested by others, others adopt)?

48. What are the incentives for teachers like yourself to share curriculum units?

_____

_____

_____

D. WORKSITE ASSIGNMENT

We will use the information below to select an appropriate worksite learning opportunity.

49. During the second week of the mini-sabbatical, you will spend several days at a worksite where you can gain exposure to authentic problems that workers deal with on actual jobs. Work observation provides a window into understanding authentic problems. Understanding the nature of an authentic problem and how it is solved provides the basis for designing the curriculum unit and student assessments. While thinking about the curriculum unit you plan to develop and teach, check the statement that best describes your current thinking; provide appropriate documents.

( ) If you plan to perfect a project or study unit previously taught, enclose a copy of the unit (label "for work assignment").

( ) If you plan to create a new project or study unit as part of an existing course, enclose a copy of the course summary (label "for work assignment").

( ) If you are not sure what subject matter or course you plan to tackle, contact the Project Director immediately to discuss further.

50. Finally, what should we know about you as a learner?

_____

_____

_____

51. Time required to complete this survey: _____

Please return completed survey and requested materials **no later than (date)** to

(Project Director)

(Address)

Thank you.

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MINI-SABBATICAL SUMMER SCHOOL
STUDENT PRE-COURSE SURVEY

Name: _____

Age: _____

Grade: _____

Race/Ethnicity: ( ) Asian/Pacific Islander ( ) Latino
( ) African-American ( ) White
( ) Other: _____

Sex: ( ) Male ( ) Female

Check the courses you are currently enrolled in:

Math: ( ) General Math ( ) Pre-Algebra ( ) Math A/B
( ) Algebra I ( ) Geometry ( ) Algebra II
( ) Pre-Calculus, Trig., or Math Analysis ( ) Calculus
( ) Other: _____

Science: Name of course: _____
Is this course considered a college-prep class? ( ) Yes ( ) No
Is this course designated AP (advanced placement)? ( ) Yes ( ) No

Language Arts: Name of course: _____
Is this course considered a college-prep class? ( ) Yes ( ) No
Is this course designated AP (advanced placement)? ( ) Yes ( ) No

Social Studies: Name of course: _____
Is this course considered a college-prep class? ( ) Yes ( ) No
Is this course designated AP (advanced placement)? ( ) Yes ( ) No

Computer courses you have taken (please list):

_____

Shop, Art, or Home Economics courses you have taken (please list):

_____

How did you hear about the Mini-Sabbatical Summer School, and what would you like to gain from participating in it?

_____

_____

In the past three years, how often have you . . .	Several times	Once or twice	Never
1. used a school or public library to find information?			
2. used a computer (e.g., Internet, CD-ROM) to find information?			
3. used the telephone to find information?			
4. completed a project related to school (e.g., you conducted a survey for math class, entered a science fair, or produced something in a shop class)?			
5. completed a project not related to school (e.g., you built something at home, or organized an event for a youth organization)?			
6. taken a class that combined two or more subject areas (e.g., a course where you learned both math and science)?			
7. completed an assignment where your grade depended on group, not individual, performance?			

If you indicated in questions 4 or 5 that you have completed at least one project, please choose the project you remember the most about and describe what the experience was like. Consider these questions in your description, and please explain in as much detail as you can!

- Did you choose the topic or goal of the project?

  _____

  _____

- How much guidance were you given by teachers or other adults?

  _____

  _____

- How much information did you have to find on your own?

_____

_____

- Did you work with other students?

_____

_____

- Did you enjoy working on the project? Why or why not?

_____

_____

What would you like your Summer School teacher to know about you as a learner?

_____

_____

Thank you. Please return the completed survey to the (name of department).

To authorized school staff: Please complete the following:

Do any of the following categorical designations currently apply to this student? (Check all that apply.)

( ) GATE
( ) LEP
( ) Special Day Class (SDC) or Resource Specialist Program (RSP)
( ) Title I Program
( ) Other: _____

STUDENT CHECKLIST REPORT

Name: _____ Student ID Number: _____

Teacher: _____ Teacher ID Number: _____

Date: _____ Project Day: _____

1. Topic: What was today's lesson about?

2. Content: What did you do during the lesson? (Check **ALL** that apply!)

____. Read (books, encyclopedias, magazine articles, handouts)
____ Watched video, movie, TV program
____ Listened to recording (tape, CD)
____ Looked up information from a CD-ROM encyclopedia or the Internet
____ Got information from a spreadsheet or ledger
____ Got information over the phone or by interviewing an expert
____ Looked at drawings, layout plans, photographs, or model
____ Listened to the teacher present information, or demonstrate a procedure or skill
____ Listened to a student present information, or demonstrate a procedure or skill
____ Listened to a guest present information, or demonstrate a procedure or skill
____ Conducted a lab experiment
____ Took a survey
____ Conducted a survey
____ Summarized information from an experiment or survey
____ Took notes
____ Worked with a group to solve a problem
____ Worked by yourself to solve a problem
____ Created a piece of writing
____ Prepared or gave an oral presentation
____ Made comments/gave feedback on a student's presentation or writing
____ Got comments/feedback on your presentation or writing

____ Made a video or audio recording
____ Created a multimedia presentation on the computer (including text and visuals)
____ Created a drawing, layout, or photograph
____ Created a model or other object
____ Created or entered information into a spreadsheet or ledger
____ Took a test or quiz
____ Reviewed a homework assignment
____ Took part in a team-building activity or discussion of group roles
____ Led a group or recorded for a group
____ Other: _____

3. About what percent of today's class did you spend working:

- by yourself? _____ %
- in a group? _____ %
- with the whole class? _____ %

(Total) 100 %

CURRICULUM TEMPLATE: INSTRUCTIONAL DESIGN

TASK

- Instructional Goals
  - Generic
  - Disposition
  - Domain skill
- Classroom Design
  - Culture of practice
  - Product
  - Teacher role
  - Team
- Teaching Methods
- Alignment with Official Curriculum

CURRICULUM REVISION LOG – BASELINE

Name: _____ Teacher ID Number: _____

Date: _____ Project Day: _____

1. The purpose of this form is to establish a "baseline" for tracking the evolution of your curriculum unit during Weeks 5 and 6. Please complete the boxes with the elements of your current instructional design.

Summary: Briefly state what students are expected to produce:	
Goals: • complex reasoning skills (problem-solving, trouble-shooting, and so on) • attitudes and dispositions • cooperative skills • domain-specific skills • other	
Design: • culture of practice • teacher role • team roles • assessment • sequencing • classroom set-up • other	
Teaching Methods: • modeling • coaching • scaffolding and fading • articulation and reflection • exploration • other	

Summary: Briefly state what students are expected to produce:	
Resources: • reference articles, videos, and so on • technology • supplies or equipment • other	

2. In this section, we are interested in the organizational support required to implement the teaching phase of the project. Please describe the prep time, coaching time, and other organizational resources you anticipate using during Weeks 5 and 6. You may want to give a "per day" estimate.

Organizational Supports: • prep time • coaching by staff • coaching by peers • other	

CURRICULUM REVISION LOG – DAILY FORM

Name: _____ Teacher ID Number: _____

Date: _____ Project Day: _____

1. The purpose of the following chart is to document changes in your instructional design. Please indicate the components you have revised or will revise today, and the rationale for doing so. (If you did not change an element, please write "No Change" in the component box.)

	Component Changed	Rationale for Change
Goals: • complex reasoning skills (problem-solving, repair, trouble-shooting, and so on) • attitudes and dispositions • cooperative skills • domain-specific skills		
Design: • culture of practice • product • classroom set-up • teacher role • team roles • assessment • sequencing		
Teaching Methods: • modeling • coaching • scaffolding and fading • articulation • reflection • exploration		

	Component Changed	Rationale for Change
Resources: • reference articles • computers • video segments • supplies/equipment		

2. In this section, we are interested in the organizational support required to implement the teaching phase of the project. Please indicate the prep time, coaching time, and other organizational resources you used, or anticipate using, today.

Organizational Supports: • prep time • coaching by staff • coaching by peers	

The purpose of this part of the form is to create a summary record of what happened in your class.

3. Topic: What was today's lesson about?

4. Content: What did students do? (Check **ALL** that apply.)

____ Read (books, encyclopedias, magazine articles, handouts)
____ Watched video, movie, TV program
____ Listened to recording (tape, CD)
____ Looked up information from a CD-ROM encyclopedia or the Internet
____ Got information from a spreadsheet or ledger
____ Got information over the phone or by interviewing an expert
____ Looked at drawings, layout plans, photographs, or model
____ Listened to the teacher present information, or demonstrate a procedure or skill
____ Listened to a student present information, or demonstrate a procedure or skill

____ Listened to a guest present information, or demonstrate a procedure or skill
____ Conducted a lab experiment
____ Took a survey
____ Conducted a survey
____ Summarized information from an experiment or survey
____ Took notes
____ Worked with a group to solve a problem
____ Worked by yourself to solve a problem
____ Created a piece of writing
____ Prepared or gave an oral presentation
____ Made comments/gave feedback on a student's presentation or writing
____ Got comments/feedback on your presentation or writing
____ Made a video or audio recording
____ Created a multimedia presentation on the computer (including text and visuals)
____ Created a drawing, layout, or photograph
____ Created a model or other object
____ Created or entered information into a spreadsheet or ledger
____ Took a test or quiz
____ Reviewed a homework assignment
____ Took part in a team-building activity or discussion of group roles
____ Led a group or recorded for a group
____ Other: _____

5. Please attach a copy of any handouts or materials given to the students today.

TEACHERS' CUMULATIVE EVALUATION OF MINI-SABBATICAL

Name: _____ Teacher ID Number: _____

1. *Learning the Classrooms that Work Model*: The conceptual framework on which the design and coaching activities of the mini-sabbatical depended were derived from RAND research on "classrooms that work." Please evaluate the usefulness of the following activities for helping you understand this research:

		Not at all helpful				Very helpful
A.	Reading the "Classrooms that Work" report (summary and Chapter 3)	1	2	3	4	5
B.	Presentation and briefing slides (e.g., Mr. Price's English vs. landscape classes)	1	2	3	4	5
C.	Zulu Love Letter Pin and discussion	1	2	3	4	5
D.	Case studies and discussion ("Jigsaw" format)	1	2	3	4	5
E.	"Cognitive Apprenticeship" reading (AFT article)	1	2	3	4	5
F.	"Five Traits of Good Teaching" article, discussion	1	2	3	4	5
G.	Journal entry ("Write a letter to your colleague")	1	2	3	4	5
H.	Coaching from and discussions with your peers	1	2	3	4	5
I.	Coaching from and discussions with project staff	1	2	3	4	5

2. **Worksite Observations:** Please evaluate the usefulness of the following activities in preparing you for worksite observations during Week 2:

	Not at all helpful				Very helpful
A. Presentation on observation methods	1	2	3	4	5
B. Practice observation at RAND and discussion	1	2	3	4	5
C. (MTA only) Group meeting with mentors	1	2	3	4	5

How helpful were the following activities in helping you complete and summarize the observations of Week 2?

	Not at all helpful				Very helpful
D. Phone conversation with staff on first day	1	2	3	4	5
E. Coaching/assistance from staff	1	2	3	4	5
F. Midweek day of debriefing and writing at RAND	1	2	3	4	5
G. Writing fieldnotes	1	2	3	4	5
H. Writing the "authentic practice summary"	1	2	3	4	5
I. Journal entries related to fieldwork	1	2	3	4	5

3. **Curriculum Design:** Please evaluate the helpfulness of the following activities and resources during the two weeks of instructional design:

		Not at all helpful				Very helpful
A.	Presentation on approaches to designing curriculum (Module 2 materials on thematic vs. integrated curriculum)	1	2	3	4	5
B.	Presentation on assessment	1	2	3	4	5
C.	Coaching/discussions with peers	1	2	3	4	5
D.	Coaching/discussions with project staff	1	2	3	4	5
E.	First presentation of curriculum design (at RAND) and peer review	1	2	3	4	5
F.	Second presentation of curriculum design	1	2	3	4	5
G.	Resources at RAND: computer, Internet	1	2	3	4	5
H.	Resources at RAND: materials (e.g., xeroxing, supplies)	1	2	3	4	5
I.	Journal entries related to design work	1	2	3	4	5

4. **Summer School:** Please evaluate the usefulness of the following activities and resources for helping you with the implementation of your instructional design and with experimentation with teaching methods:

		Not at all helpful				Very helpful
A.	Videotaping and discussion	1	2	3	4	5
B.	Coaching/discussions with peers	1	2	3	4	5
C.	Coaching/discussions with project staff	1	2	3	4	5
D.	Preparing for final presentation	1	2	3	4	5
E.	Journal entries related to teaching and implementation	1	2	3	4	5
F.	Presentation and discussion related to Action Research	1	2	3	4	5

5A. What are the most important ways in which your professional practice changed in the course of the mini-sabbatical?

B. For each of the changes identified above, what do you think were the critical moments or experiences during the mini-sabbatical that contributed to this change?

C. In retrospect, what might have helped you accomplish the changes you achieved more easily or what might have enabled you to make additional changes that you hoped for?

D. What is the likelihood that you will incorporate these changes (if you made any) into your day-to-day professional practice?

E. Generally, is there anything else the project staff (and, indirectly, the project's funders) should know about designing and implementing a professional development activity such as the mini-sabbatical?

APPENDIX B-2
SAMPLE LETTERS

Sample Project Announcement

Sample Worksite and Mentor Letters

Sample Letter to Student Participants

Sample Thank You Letter for Worksite Mentors

Sample Project Announcement
Designing Classrooms that Work: A Mini-Sabbatical
for High School Teachers and Teacher Trainers

Why

The goal of the mini-sabbatical project is to help teachers make the kinds of curriculum and pedagogical changes implied by reforms to integrate vocational and academic education and to improve the school-to-work transition.

What

To make use of the occupation or industry as a context for learning, teachers need knowledge of work and work practice, a new model for classroom design and instruction, and a stress-free opportunity to learn and apply both.

Teachers participating in the mini-sabbatical will

- learn ethnographic techniques for describing and analyzing work.
- apply these techniques (with coaching) in worksite observations.
- design a short curriculum of high-quality authentic lessons drawn from worksites.
- experiment with teaching and assessing the new curriculum in a short two-week class with high school students.
- work closely with other innovative teachers and training faculty.

Who

The mini-sabbatical is designed for high school teachers in a variety of programs, whether they teach in academies, cooperative education, school-based enterprises, career focus schools, or other program types.

When

Teachers meet for six weeks (six hours a day, four days a week) beginning (date) and ending (date).

Where

The mini-sabbatical will involve activities at three sites: (1) training site; (2) local worksite for observations; and (3) an area high school for two weeks teaching the newly developed curriculum.

How Much

Teacher participants will receive an honorarium of ($ amount). Student participants will receive a stipend of ($ amount) for two weeks of participation from (date) to (date).

To inquire further about this project, contact the Project Director at (telephone number).

Sample Worksite and Mentor Letters

To: Participating Agencies and Mentors

From: (Name of Project Director)

Date: (Date)

Re: High School Teachers' Professional Development

Purpose of the Project

(Name of Training Firm) is conducting a training project for high school teachers who are involved in work and career programs. The goal of the project is to assist teachers in developing high-quality lessons for their students. Professional trainers will observe them teach the lessons they developed in an experimental summer school class.

Why We Want Agencies To Participate

During the week of (Date), teachers will spend several days at a worksite where they can gain exposure to authentic problems that workers deal with on actual jobs. Work observation provides a window into understanding authentic problems. Understanding the nature of an authentic problem and how it is solved provides the basis for designing the curriculum unit and student assessments.

Benefits of Participation

Participating agencies will be able to influence teachers' training for developing curriculum tied to school-to-career programs. Though it is not the primary purpose of worksite observation, mentors will have an opportunity to learn more about bridging and connecting aspects of school-to-career programs.

What We Ask Agencies To Do

- Consult with the study director about appropriate worksite assignments based on (her/his) knowledge of teachers' plans for curriculum development.
- Arrange for mentor(s) who will assist teachers during work observation. Mentors will also field questions and provide feedback to teachers and the researchers

subsequent to work observation. Estimated time commitment is 10-15 hours for each mentor.

- Provide teachers access to mentors and appropriate departments or work units on the following dates and approximate times: (Times may vary based on work unit operations.)
  - Monday, (Date), approximately 9:00 a.m. - 12:00 noon
  - Tuesday, (Date), approximately 9:00 a.m. - 2:00 p.m.
  - Thursday, (Date), at start-up of workday, up to 4 hours thereafter

What We Will Ask Mentors To Do

- Meet with study project staff for orientation to the study.
- Serve as key informant during worksite observation of (Dates) and help arrange observation opportunities, including two 20-minute interviews with the department head and department trainer.
- Serve as contact for teacher's questions during weeks of (Dates).
- Review presentation of teacher's draft curriculum unit on (Date) at (Name of High School).
- Review presentation of teacher's final curriculum unit on (Date) at (Name of High School).

Whom To Contact

- For help on (Dates of Worksite Observation), call (Name of Assigned Project Staff) at (Telephone Number) and (she/he) will ensure that the project staff respond promptly.
- If you have general questions about the study, please contact the project director at (Telephone Number).

Attachment:

Overview of Work Site Schedule and Tasks for Teachers

- **(Day 1 date), 9:00 a.m. - 12:00 noon:** Meet mentor and department staff; explain the study's purpose to staff; get lay of the department and plan for observations; arrange for 20-minute interviews with department head and department trainer. Debrief by telephone with mini-sabbatical project staff during afternoon or early evening.

- **(Day 2 date), 9:00 a.m. - 2:00 p.m.:** Observe everyday routines and everyday relations with others.

- (Day 3 date): Return to (Name of Training Site).

- **(Day 4 date), at start-up of workday/shift, up to four hours thereafter:** Observe start-up of the workday and complete task observations. Conduct formal interviews with department head and trainer.

- (Day 5 date): Return to (Name of Training Site).

Sample Letter to Student Participants

Welcome!

Thank you very much for participating in the "High School Teachers' Professional Development Project." We think you will find the program challenging and rewarding, and we are very much looking forward to working with you for the next two weeks.

Remember, these are the days you will be needed at (Name of High School):

- Week 1: Monday, (Date) to Thursday, (Date), 9:30 a.m. to 12:45 p.m.
- Week 2: Monday, (Date) to Thursday, (Date), 9:30 a.m. to 12:45 p.m.

About your classes: You will be working on projects relating to transportation, health, or science. In some of the classes, you will have the chance to use computers and other types of technology. All of the classes will require teamwork and some kind of final presentation. Also, expect to do work outside of class!

About your pay: If you have completed the consent forms and survey, and if you attend all eight days, expect to get a check for $160 on or before August 15. If some kind of problem comes up—your forms are turned in late, or you can't complete all eight sessions—you will still be paid for all the days you do attend (at $20 per day), but there will be about a three- to four-week delay in processing your check.

Thanks very much for your help. Again, we are looking forward to getting to know you. If you or your parents have any questions, please do not hesitate to call (Staff Name) at (Telephone Number).

Sincerely,

(Name)
Project Director

Sample Thank You Letter for Worksite Mentors

(Date)

(Name)
(Title)
(Firm)
(Address)

Dear (Name of Mentor):

We appreciate your willingness to share expertise and to provide assistance to (Name of Teacher). This project could not have accomplished its goals if people like yourself had not been willing to participate. Please extend our gratitude to your entire staff.

Observing work provides high school teachers with new perspectives and options for enriching curricula. (Name of Teacher) and seven other teachers are developing new curricula—influenced, in part, by work observations—and will teach it to a small class of students in a two-week experimental summer class which begins (Dates).

As part of this process, (Name of Teacher) will make several presentations to the other teachers and our project faculty before students arrive and then again at the close of the experimental summer school. The presentations will focus on the design of the new curriculum. We invite you to attend the presentations. Besides providing constructive feedback to (Name of Teacher), you might also have some general observations about teachers' curriculum development efforts and attempts to infuse real work aspects into curricula. We are videotaping the presentations and discussions that follow.

Date, time, and location information is as follows:

- Thursday, (Date), 9:30 - 11:00 a.m., (Room #)
- Thursday, (Date), 1:30 - 3:00 p.m., (Room #)
- Location: (Name and Address of High School; include directions to high school and parking)

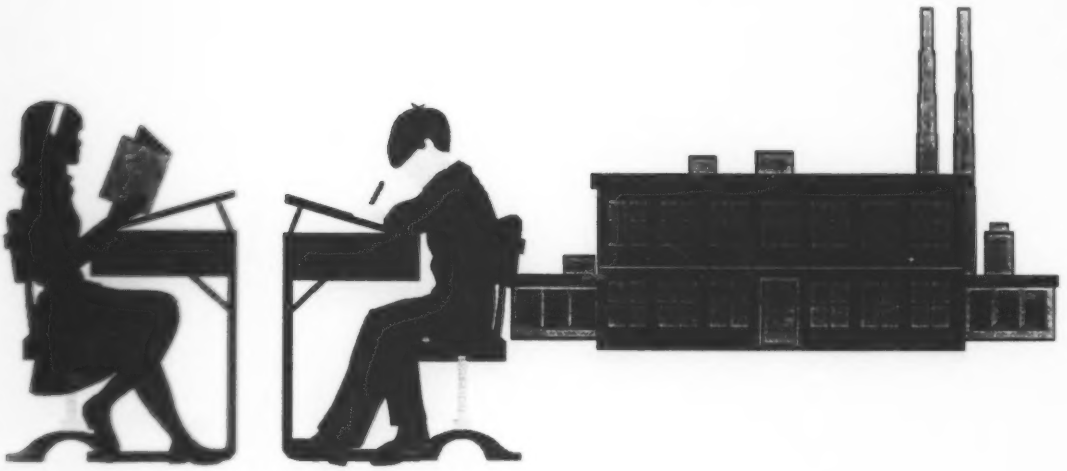
We hope that you are able to attend the presentations. If you are not, please accept our thanks for assisting (Name of Teacher).

Please call me if you have comments or questions about the project. I can be reached at (Name of Training Site and Telephone Number).

Sincerely,

Project Director

APPENDIX B-3
DESIGNING "CLASSROOMS THAT WORK" STUDENT GUIDE



A SIX-WEEK MINI-SABBATICAL
FOR HIGH SCHOOL TEACHERS
STUDENT GUIDE

APPENDIX B-3
STUDENT GUIDE

Appendix B-3 includes information provided to students participating in the mini-sabbatical: schedule; expectations, practice for journal writing, practice for activity reporting, and example activity checklist report (for student evaluation of daily lessons).

Sample Letter to Student Participants

Welcome!

Thank you very much for participating in the "High School Teachers' Professional Development Project." We think you will find the program challenging and rewarding, and we are very much looking forward to working with you for the next two weeks.

Remember, these are the days you will be needed at (Name of High School):

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About your classes: You will be working on projects relating to transportation, health, or science. In some of the classes, you will have the chance to use computers and other types of technology. All of the classes will require teamwork and some kind of final presentation. Also, expect to do work outside of class!

About your pay: If you have completed the consent forms and survey, and if you attend all eight days, expect to get a check for $160 on or before August 15. If some kind of problem comes up—your forms are turned in late, or you can't complete all eight sessions—you will still be paid for all the days you do attend (at $20 per day), but there will be about a three- to four-week delay in processing your check.

Thanks very much for your help. Again, we are looking forward to getting to know you. If you or your parents have any questions, please do not hesitate to call (Staff Name) at (Telephone Number).

Sincerely,

(Name)
Project Director

High School Teachers' Professional Development Study
Experimental Summer School Schedule
(Date)
(High School) Campus

(Date)

9:30 a.m.	Opening Assembly	Project Director	Multipurpose Room
10:30 a.m.	Learn and practice writing reports	Staff	Multipurpose Room
11:30 a.m.	Class _____	Assigned Teacher: _____	Assigned Room:
12:30 p.m.	Dismissal		

(Date) - (Date)

9:30 a.m.	Class begins	Assigned Teacher	Assigned Room
11:40 a.m.	Complete reports	Staff	Multipurpose Room
12:45 p.m.	Dismissal		

(Date)

9:30 a.m.	Teachers' final presentations	Project Director	Room TBA
11:30 a.m.	Feast		
12:30 p.m.	Dismissal		

Learn and Practice Writing Reports

Expectation: Each student will write a one-page journal entry and complete an activity checklist report each class day.

Q: Why are the daily journals and activity checklist reports important to this study?

A: The study is intended to help teachers develop some new classroom methods and student feedback is needed to help us determine how the new methods work for students.

Q: What happens to the journal pages and activity checklist reports?

A: The study project leaders will hold on to them. We will not share them with the assigned teachers. They become part of the data used to develop a final version of the mini-sabbatical. The privacy of student authors and confidentiality will be maintained.

Practice Writing a One-Page Journal Entry

Discussion: For those that have journalled before, what is the benefit of journalling? What if you can't think of anything to write?

Practice: For the subject "I am a student," respond to the following prompts:

- Are you pleased with what you have accomplished as a student this past school year?
- Have you had any disappointments?
- Has your view of yourself as a student changed over the last year?
- Are you on track for becoming the type of student you want to be?

Practice Completing the Activity Checklist Report

The activity checklist is a three-part report. The following aspects are covered:

- Write a lesson summary.
- Report what you did during the class session. Do you understand all the options on the list of activities?
- Estimate time you spent working alone, in a group, or with the entire class.

STUDENT CHECKLIST REPORT

Name: _____ Student ID Number: _____

Teacher: _____ Teacher ID Number: _____

Date: _____ Project Day: _____

1. Topic: What was today's lesson about?

2. Content: What did you do during the lesson? (Check **ALL** that apply!)

____ Read (books, encyclopedias, magazine articles, handouts)
____ Watched video, movie, TV program
____ Listened to recording (tape, CD)
____ Looked up information from a CD-ROM encyclopedia or the Internet
____ Got information from a spreadsheet or ledger
____ Got information over the phone or by interviewing an expert
____ Looked at drawings, layout plans, photographs, or model
____ Listened to the teacher present information, or demonstrate a procedure or skill
____ Listened to a student present information, or demonstrate a procedure or skill
____ Listened to a guest present information, or demonstrate a procedure or skill
____ Conducted a lab experiment
____ Took a survey
____ Conducted a survey
____ Summarized information from an experiment or survey
____ Took notes
____ Worked with a group to solve a problem
____ Worked by yourself to solve a problem
____ Created a piece of writing
____ Prepared or gave an oral presentation
____ Made comments/gave feedback on a student's presentation or writing
____ Got comments/feedback on your presentation or writing

____ Made a video or audio recording
____ Created a multimedia presentation on the computer (including text and visuals)
____ Created a drawing, layout, or photograph
____ Created a model or other object
____ Created or entered information into a spreadsheet or ledger
____ Took a test or quiz
____ Reviewed a homework assignment
____ Took part in a team-building activity or discussion of group roles
____ Led a group or recorded for a group
____ Other: _____

3. About what percent of today's class did you spend working:

- by yourself? _____ %
- in a group? _____ %
- with the whole class? _____ %

(Total) 100 %